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ABSTRACT

This study's primary purpose was to examine how geographical characteristics and cultural supply influence individual participation in arts related activities in the United States. Data for the study were extracted from the 1982 and 1985 "Survey of Public Participation in the Arts." Research efforts were based upon the inference that geographic differences lead to inequalities in the supply of cultural opportunities, and this factor may outweigh differences in attitudes or values in relation to arts participation. Geographical factors relating to specific U.S. regions, subregions, and urban and metropolitan areas were investigated. Results indicated that: (1) arts participation did not increase in any region between 1982 and 1985; (2) the greatest variation in arts participation exists in the south; (3) when demographic characteristics of a region are considered, regional differences are reduced; (4) supply and planning policies may account for high levels of participation in some metropolitan areas, while low participation may relate to poor transportation and parking facilities; (5) educational levels and number of adults who have never married are positive factors in metropolitan areas; and (6) social inequality has detrimental effects on the supply of and demand for art activities. Appendices list large cities within specific geographic areas and provide computer results relating to the study. (JHP)

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The Geography of Arts Participation:

Report on the 1982 and 1985 Surveys of Public Participation in the Arts

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I. INTRODUCTION

The main emphasis in research on participation in the arts has largely been differences among individuals. Studies report that the primary beneficiaries of the arts are well-educated, affluent, white, and are employed in professional and managerial or other white-collar jobs (American Council for the Arts, 1981, 1984; DiMaggio and Useem, 1983; Robinson et al., 1985; Schliewen, 1977). While some have emphasized differences in life style and attitudes (Andreason and Belk, 1980) over demographic and social class characteristics, the main focus of research on arts participation has been the individual. Social and economic context as well as geographical differences have largely been ignored.

The most general framework for this investigation is cast in terms of the inequalities of opportunity that are generated by spatial and geographical differences in the United States that affect proximity to cultural institutions, shape people's perceptions of cultural opportunities, and influence behavior. Without a comprehensive understanding of the distribution of cultural institutions and events, it is only possible to assume that spatial and geographical differences in participation do, in fact, reflect differences in the supply of culture. The persistence of geographical differences in participation after controlling for all known relevant individual characteristics suggests that inequalities in the supply of culture may outweigh differences in taste, attitudes, or values. This inference is indirectly tested in this report.

Regional and spatial differences have not been completely ignored in previous studies, but because so little research on the topic has been done, the conclusions that can be drawn from these earlier studies are somewhat ambiguous. For example, Marsden et al.'s (1982) analysis of the Harris data on arts participation (American Council for the Arts, 1981) finds that Southerners have low participation rates compared with people from other parts of the country. This could be due to lesser opportunities in the south, Southerners' preference

for leisure centered around family and church rather than established cultural institutions, or, a specific and distinctive set of values and attitudes. (For discussions of possible interpretations, see Abrahamson and Carter, 1986; Glenn, 1967; Peterson and DiMaggio, 1975).

While differences in cultural participation between Southerners and non-Southerners have been identified in both the Harris poll studies and the Survey of Public Participation in the Arts (Robinson et al., 1985), there appear to be no significant regional differences in the supply of culture, at least on a per capita basis for large U.S. metropolitan places (Blau, 1986a), although there are undoubtedly differences within metropolitan places with respect to access and proximity (Horowitz et al., 1986).

A main purpose of this research is to examine how geographical characteristics and cultural supply influence individual participation. While it would be highly desirable to have a better understanding of people's actual alternatives and range of choices, by taking into account individual characteristics (such as education and income) that are known to influence arts participation, it is possible to estimate the effects of region, subregion, urban location, and, to some extent, metropolitan supply.

II. PROCEDURES

2.1. SURVEY DATA

Employed in these analyses are the 1982 and 1985 waves of the Survey of Public Participation in the Arts (SPPA). Although the details concerning sample size and data collection procedures are described elsewhere (Robinson et al., 1985), several observations that are particularly germane to this analysis should be pointed out. SPPA is part of a larger national sample that is designed to yield precise estimates of adult Americans, age 18 and over. Because the SPPA sample is smaller than the larger one of which it is a part (with unweighted N's

of 17,254 in 1982 and 16,152 in 1985), special care must be paid to small groups, categories with few numbers of cases, or small geographical units. For comparisons of regions, the 1982 and 1985 weighted samples of 164,575 and 170,474, respectively, yield robust estimates for the nation,* whereas some caution must be exercised in the interpretation of the smallest units used in this analysis -- specifically, Primary Sampling Units, as described by their aggregated individual characteristics. Because Primary Sampling Units (PSUs) cannot be identified and their actual sizes (that is, number of respondents) provide no indication as to whether or not they are small components of a large metropolitan place or whether they are large rural counties or compose several large rural counties, it is virtually impossible to estimate sources of unreliability that can be traced to specific small PSU's. On the other hand, the within-group variance of PSU's is small, which helps to offset sampling error.

Suffice it to say, there is a great advantage in employing PSU as the contextual geographical unit. The nation is divided into 365 PSUs, each of which is formed within counties or groups of contiguous counties that are relatively homogeneous in terms of population characteristics. Thus, with the possible caveat that PSU's that are large in area size but small in sample size may yield in any given year an unreliable estimate, the PSU defines a meaningful social and economic context. The PSU is a far more homogeneous entity than those often employed in research on individuals, such as the SMSA or state. Moreover, because the PSU is defined to maximize homogeneity on such demographic characteristics that are used as individual variables in this research the estimates we obtain are likely to be relatively unbiased.

The larger geographical units employed in the analysis pose few problems for the purpose of estimation. All analyses (with the exception of those for SMSAs reported in Part XIV) were carried out on the full weighted sample although the total number of cases varies due to non-response on particular questions.

*Of 164,575,000 and 170,474,000, respectively.

2.2. DEFINITIONS OF DEPENDENT VARIABLES

2.2.1 Arts Activities

The core questions administered to all respondents ask whether or not the person had attended the following during the previous twelve months: a live jazz performance (JAZZ), live classical music performance (CLASSICAL), live opera (OPERA), live musical stage play or operetta (MUSICAL), non-musical stage play (PLAY), live ballet performance (BALLET), and art gallery or art museum (ART). The sum of "yes's" constitutes the art participation index (Parts X, XI, XII), which is multiplied by 10 in particular analyses (Part VI). In Parts III and IV individual arts activities are analyzed separately.

2.2.2. Reading

Another question asked of all respondents is: "During the last 12 months did you read novels, short stories, poetry, or plays?" The dichotomous responses (READ) to this question are analyzed in Parts III and IV. Reading is not included in the art participation index.

2.2.3. Leisure Activities

In version 3 of both surveys respondents were asked whether they had participated in any of fourteen recreational activities during the past twelve months. FOr 1982 the number of respondents is 5571; for 1985 it is 2294. The activities are the following:

> Go to the movies (GOMOVIE)
>
> Go to any sports event at all (both professional and amateur, regardless of whether an admission fee was charged) (GOSPORTS)
>
> Visit a zoo, arboretum, or botanical garden (ZOO)
>
> Play card games, board games, electronic games, pinball, or any other similar games (GAMES)
>
> Go to an amusement or theme park, a carnival, or similar place of entertainment (AMUSE)

Jog, lift weights, walk or participate in any other exercise program (JOG)

Participate in any sports activity, such as softball, basketball, golf, bowling, skiing, tennis, or the life (SPORTS)

Any camping, hiking, canoeing, or any other similar outdoor activity (CAMPING)

Read books or magazines (BOOKS)

Volunteer or charity work (CHARITY)

Work on a collection such as stamps, coins, shells or the like (COLLECT)

Prepare special gourmet meal for the pleasure of doing it (MEALS)

Make repairs or improvements on your home or motor vehicles (IMPROVE)

Work with indoor plants or do any gardening for pleasure (PLANTS)

Regional and subregional variation with respect to these leisure activities are reported in Part V. On the basis of the 1982 responses they are employed in two indices, LEISURE and RECREATION, in comparisons of central city residents, SMSA residents (who live outside of SMSA's), and non-SMSA residents (Part X).

2.2.4. Other Participation

Also in version 3 of the survey respondents were asked about their participation in a wide range of arts related leisure activities during the previous twelve months. In 1982 the number of respondents is 4255; in 1935 it is 2374. These responses are examined in Part V.

Visit a science museum, natural history museum, or the like (VISSCI)

Visit an historic park or monument, or tour building or neighborhoods for the historic or design significance (VISHIS)

Read, listen to a reading, of poetry (LISTEN)

Visit an art or craft fair or festival (VISART)

Take lessons or a class in literature, creative writing, art, photography, craft arts, ballet, music, or the like (CLASS)

Work with pottery, ceramics, jewelry, or do any leatherwork, metalwork, or similar crafts (POTTERY)

Do any weaving, crocheting, quilting, needlepoint, sewing or similar crafts (WEAVE)

Work in a musical or non-musical play, an opera, or a ballet production (PLAYPRO)

Work in a jazz or classical music performance (MUSPRO)

Work on any creative writings such as stories, poems, plays, and the like (POEMS)

Make photographs, movies, or video tapes as an artistic activity (MOVIES)

Do any painting, drawing, sculpture, or printmaking activities (PAINT)

2.2.5. Television

The main time-consuming activity for Americans outside of work and sleep is television (Robinson, 1977), and while there is some evidence that television directly competes with certain types of cultural activities, such as attending the cinema (see Kelley, 1982:347), it is not clear that television is in direct competition with all types of cultural activities. The opportunities associated with residential location are considered in Part XI as influencing the extent to which television watching becomes an alternative to cultural activities. The responses of 4037 individuals in the 1982 survey and 2125 in the 1985 survey are used in comparisons presented in Part V. The question asked is: about how many hours of television do you watch on an average day? (TV)

2.2.6. Types of Music

To supplement our understanding about the consistent low rates of participation in particular sub-regions of the South, we attempt to examine the possibility that Southerners enjoy certain types of cultural activities that are somewhat removed from mainstream culture. While it is virtually impossible in a

national survey to ask questions about local cultural traditions, a set of questions asked about music preferences offer some opportunity of exploring the possibility of a local cultural tradition in the South, or particular sections of it. In version 6 of the survey 5617 individuals were asked whether or not they liked to listen to each of the following types of music: classical/chamber music, opera, operetta/broadway musical/show tunes; jazz; soul/blues/rhythm and blues/big band/country-western; bluegrass; rock; mood/easy listening; folk; barbershop; hymns/gospel. In Part VII the Southern region is compared to national estimates.

2.2.7. Cultural Interests

Because geographical and location factors generate different opportunities and exert different constraints on participation, people's expression of not attending arts activities as much as they would like is of some relevance in understanding these opportunities and constraints. A set of questions referred to as "barriers to participation" (version 1) asked 5481 respondents in 1982 and 2374 in 1985 about such thwarted interests. In this report the reasons given for not going to various arts activities are not of particular relevance except those that relate to availability, proximity, and transportation. These are discussed in greater detail below. Relevant here are the "Interest" variables that are derived from the question that asked if the person would like to have gone more to each of the seven cultural activities: jazz (MORJAZZ); classical music performances (MORCLASS); opera (MOROPERA); musical plays (MORMUS); non-musical plays (MORPLAYS); ballet performances (MORBALLET), and galleries or museums (MORART). The results of the regional and area comparisons are summarized in Part IX.

2.3. DEFINITIONS OF INDIVIDUAL VARIABLES

In the regression analyses (discussed in Parts XII and XIII), the following variables are used:

Marital Status: Never married = 1
Married, widowed, divorced = 0

Gender: Female = 1 Male = 0

Education: Completed elementary school = 1
Completed three years of high school = 3
Completed high school = 3
Some college = 4
Four years college = 5
Post-baccalaureate = 6

Family income: Less than $9999 = 1
10,000 - 14,999 = 2
15,000 - 19,999 = 3
20,000 - 29,999 = 4
30,000 - 49,000 = 5
50,000 or more = 6

Race: White = 1 Nonwhite = 0

Work hours: Total number of hours worked last week

Age: 18 - 24 = 1
25 - 34 = 2
35 - 44 = 3
45 - 54 = 4
55 - 64 = 5
65 - 74 = 6
75 - 94 = 7

Kids: Number of youngsters under 11 years old

2.4. DEFINITIONS OF LOCATION VARIABLES AND GEOGRAPHICAL UNITS

2.4.1. Regions and Subregions

Regions and subregions constitute main dimensions of comparison. For the purpose of clarity they can be defined in terms of the states of which they are composed:

Northeast
New England: ME, NH, VT, MA, RI, CT
Middle Atlantic: NY, NJ, PA

South
South Atlantic: DE, MD, DC, VA, NC, SC, GA, FL
East South Central: KY, TN, AL, MS
West South Central: AR, LA, OK, TX

North Central (Mid-West)
East North Central: OH, IN, IL, MI, WI
West North Central: MN, IA, MO, ND, SD, NE, KS

West
Mountain: MT, SD, WY, CO, NM, AZ, UT, NV
Pacific: WA, OR, CA, AK, HA

2.4.2. Location

In order to access the effects of residence by urban or non-urban location, a choice between two classification systems was required. One divides the population into urban, rural farm and rural non-farm; the other into central city of an SMSA, SMSA not central city, and not in SMSA. The rates of participation using both classifications is summarized elsewhere (NEA, 1986). Using the first classification there are small differences between rural farm and rural non-farm residents, and using the second trivial differences between the second and third categories. For methodological and substantive reasons the second classification scheme is used here. One reason is that there are relatively few cases in the rural farm category; another is that when individual characteristics are taken into account suburbanites (not central city, but SMSA residents) have lower than expected rates of participation, and another is that the second classification permits comparisons with an existing data set on SMSAs. Unfortunately, it is not advisable to use population size that is included on the 1982 survey tape since the data are for 1970 and thus do not take into account subsequent population shifts or the 1978 redefinitions in geographical entities.

2.4.3. Geographical Areas

The entire U.S. population was divided for the purpose of the survey into twenty-four areas with the intention of providing information on specific places. This was possible when the number of cases was sufficiently large so that guidelines governing confidentiality could be met. This makes it possible to examine eight large cities: New York City, Philadelphia, Boston, Detroit, Chicago, San Francisco Bay, Los Angeles Area, and the Baltimore-Washington area.

Definitions for these eight city areas are given in Appendix A. Particular caution must be used when interpreting the results for these areas since they are larger and more heterogeneous than SMSAs conventionally used in metropolitan or SMSA comparisons. The remaining population was divided by both region and by location (central city, SMSA suburb, not SMSA) and there are also breakdowns for the cities of Florida and Georgia. The overall classification scheme for area is:

Northeast
1. N.Y.C.
2. N.Y.C. suburbs
3. Philadelphia area
4. Philadelphia regions
5. Boston area
6. Other NE, SMSA central city
7. Other NE, SMSA, not central city
8. Other NE, not SMSA

Northcentral
9. Detroit
10. Chicago
11. Other NC, SMSA central city
12. Other NC, SMSA, not central city
13. Other NC, not SMSA

West
14. Bay area
15. L.A. area
16. Other West, SMSA central city
17. Other West, SMSA, not central city
18. Other West, not SMSA

South
19. Balt-Wash area
20. Texas cities
21. Flor-Georgia cities
22. Other South, SMSA central city
23. Other South, SMSA, not central city
24. Other South, not SMSA

2.4.4. Primary Sampling Unit

For the purpose of the larger survey of which SPPA is a part a national sampling frame was defined by the Bureau of the Census. Owing to the importance of the PSU for this analysis a summary of sampling procedures is warranted. According to the census bureau:

> The National Sample consists of approximately 72,000 sample units selected in a stratified multistage cluster sample. 1931 Primary Sampling Units (PSUs) were formed within counties or groups of counties using every county in the U.S. The PSUs were grouped into 376 strata by combining PSUs with similar characteristics into 220 strata and allocating a single self-representing PSU to the remaining 156 strata. The first stage of the sampling procedure consisted of the designation of the 376 specific PSUs in which interviewing was to be conducted. Beyond the 156 PSUs selected with certainty, a single PSU per stratum was selected with a probability proportionate to size in the 220 combined strata.
>
> The sample of units within a PSU was attained in two stages. In the first stage, Enumeration Districts (ED, geographic areas ranging in size from a city block to several hundred square miles, usually encompassing from 750 to 1,500 persons, established for the 1970 Census of Population and Housing) were systematically selected with a probability proportionate to their 1970 population size from a geographically arranged listing. In the second stage, each previously selected ED was subdivided into segments of about four housing units from which a sample of segments was then selected. (U.S. Department of Justice, 1981, piii).

2.4.3. Geographical and Physical Barriers

Of the questions asked in version 1 dealing with barriers to participation, three are of particular interest in trying to understand the role of geographical opportunities and constraints. Specifically, these are the response categories: cultural activity not available; transportation/traffic/parking problems; and, too far to go. How these factors of unavailability, transportation problems, and distance are related to arts participation are discussed in Part X.

2.4.4. Standard Metropolitan Statistical Areas

In order to analyze the effects of the supply of cultural institutions and urban characteristics on arts participation, the Bureau of the Census prepared covariance matrices from the responses in the 1982 SPPA that summarize the relations between individual characteristics and participation in the seven major areas and reading. These matrices were constructed for the largest 125 standard metropolitan statistical areas of the United States. For the purpose of

comparability with other data sets the SMSA boundaries that are employed for the aggregation of 1980 census data on individuals are defined by the 1970 categories. The supply data are mainly from 1980 sources, although the criterion used for including cultural institutions in the data set is that they are located within the counties that define 1970 SMSAs. Because the sampling frame for both the 1982 and 1985 art participation surveys is defined by the 1970 geographical listing, there are minimal -- if any -- discrepancies created by merging these different data bases.

III. REGIONAL DIFFERENCES IN ARTS PARTICIPATION

3.1 REGIONAL COMPARISONS

Table 1 reports the percentages of respondents in four major regions (the Northeast, Midwest, South, and West) who engaged in 1982 and 1985 in the seven arts activities and reading. National percentages are reported in the last column, and differences between 1982 and 1985, for each region and for all regions combined, are presented. Differences of virtually any magnitude are statistically significant, but only differences of two or more percentage points will be considered substantively significant in this report.

Overall, the highest rates of arts participation in 1982 and 1985 are observed for the West; the lowest rates, for the South. The Northeast, traditionally considered the national center of arts activity, has the highest rate of participation in only one activity: attending musicals. Northeastern and Western rates for opera attendance are essentially the same. Moreover, although the West is close to the Northeast in participation rates for musicals, the Midwest is more likely than the Northeast to occupy a position behind the West when other arts activities are considered.

Differences between the lowest and highest regional rates of participation in the same activity are greatest for the three most popular arts activities

Table 1. Percent Reporting Any Participation By Region, 1982 and 1985
(weighted samples)

	NE	MW	S	W	TOTAL
Jazz					
1982	8.9%	10.1	8.6%	11.6%	9.6%
1985	8.2	10.5	8.3	11.5	9.5
	-.7	+.4	-.3	-.1	-.1
Classical					
1982	13.8	14.1	10.0	15.6	13.0
1985	13.1	14.6	9.9	14.9	12.7
	-.7	+.5	-.1	-.7	-.3
Opera					
1982	3.9	3.1	2.0	3.8	3.0
1985	3.5	2.0	2.0	3.4	2.6
	-.4	-1.1	0	-.4	-.4
Musical					
1982	22.7	18.4	13.7	22.4	18.6
1985	19.8	17.4	12.7	18.8	16.6
	-2.9	-1.0	-1.0	-3.6	-2.0
Play					
1982	13.9	12.1	9.1	14.1	11.9
1985	13.9	12.2	8.7	13.2	11.6
	0	+.1	-.4	-.9	-.3
Ballet					
1982	5.6	3.5	3.4	4.8	4.2
1985	5.0	4.2	3.4	5.1	4.3
	-.6	+.7	0	+.3	+.1
Art					
1982	22.3	21.4	18.4	29.1	22.1
1985	20.1	21.0	18.7	30.9	21.9
	-2.2	-.4	+.3	+1.8	-.2
Read					
1982	58.3	58.4	49.0	63.9	56.4
1985	57.0	56.7	50.4	63.7	56.0
	-1.3	-1.7	+1.4	-.2	-.4

examined: reading literature, visiting art museums, and attending plays. There is a 15 percentage point difference between high-scoring and low-scoring regions' rate of participation in reading in 1982, and a 13 point difference in 1985. Visits to art museums exhibit a range of difference of 11 percentage points in 1982 and 12 percentage points in 1985. The difference between high and low rates of attendance at musicals is 9 percentage points in 1982, and 7 percentage points in 1985.

Opera and ballet, the two arts activities least popular among respondents, exhibit small percentage point difference between regions with lowest and highest rates of participation. The range of difference for opera attendance is 2 percentage points in 1982, and one and one half percentage points in 1985. For viewing ballet, the difference is two points in 1982, and not quite two points in 1985.

3.2 SPECIFIC COMPARISONS

3.2.1. Jazz

The West is the only region to exhibit significantly higher than average attendance at jazz performances in 1982 and 1985. The lower than average attendance rate in the South during these years is, however, not substantively important.

3.2.2. Classical Music

The West is the only region to exhibit significantly higher than average attendance at classical music performances in 1982 and 1985. The South, on the other hand, exhibits significantly lower than average attendance.

3.2.3. Opera

Opera performances are noticeably unpopular in all four regions in 1982 and 1985. No region exhibits a rate of attendance which is significantly higher or lower than average, although the South's rate is once again the lowest.

3.2.4. Musicals

Attending musicals is the third most popular activity about which respondents were polled. The Northeast and the West both exhibit significantly higher rates of participation in 1982 and 1985. This is the only activity in which participation in the Northeast outstrips participation in the West in both 1982 and 1985. However, the difference between the two regions is less than two percentage points in both years. The South exhibits a significantly lower than average attendance rate in 1982 and 1985.

3.2.5. Plays

In both 1982 and 1985, Southern respondents attended plays significantly less than people in the rest of the nation, and Northeastern respondents attended at a significantly higher rate. The West's higher rate of participation is significant only for 1982.

3.2.6. Ballet

Ballet performances are somewhat more popular than opera performances. Again, no region exhibits a rate of attendance which is significantly higher or lower than average in 1982 or 1985.

3.2.7. Art Museums and Galleries

Visiting art museums and galleries is the second most popular activity about which respondents were polled. Respondents in the West visited art museums and galleries at a much higher than average rate in 1982 and 1985. Respondents in the South also departed from the national average for museum and gallery visits in 1982 and 1985, but in the opposite direction. The Northeast's rate for museum and gallery visits is slightly higher than average in 1982, and slightly lower than average in 1985, but neither difference is significant.

3.2.8. Reading

Reading, as one might expect, is a much more popular activity than any other investigated in this report. The West exhibits a significantly higher than average rate of participation in both 1982 and 1985. The Midwest's rate of participation is also significantly higher than average, but not by much, and only in 1982. Again, respondents in the South reported a rate of participation in 1982 and 1985 which is significantly lower than average.

3.3 SUMMARY

In both 1982 and 1985, rates of participation by Western residents are generally higher than those exhibited by the residents of the other three regions. However, the Northeast exhibited a slightly higher rate of attendance at musicals than the West did in both 1982 and 1985. In 1982, Northeastern respondents attended the ballet at a higher rate than Western respondents, and in 1985 they attended plays at a higher rate. However, none of these differences are significant. Midwestern rates of participation in all arts activities depart least from national rates, and Southern rates are the lowest for almost all arts activities in 1982 and 1985. In order of national preference, the arts activities investigated in this report ranked as follows: reading, visiting art museums and galleries, attending musicals, going to classical music performance, attending plays, listening to live jazz, viewing live ballet, going to the opera. This ordering of arts activities is constant across all four regions.

3.4 CHANGES BY REGION, 1982 AND 1985

In no region did any of the arts activities examined in this report show a significant increase in participation between 1982 and 1985. In all regions, participation in individual arts activities generally declined slightly. The Northeast experienced a decline in participation in seven arts activities; however, attendance at plays remained constant. The Midwest experienced a decline in participation in four arts activities and an increase in participation

in four activities. In the South, rates for two arts activities remained constant, and rates for two increased; the rest declined. In the West, six rates declined, and two increased. Declines in rates of participation exceeded two percent in only three cases: attendance at musicals (Northeast and West), and visits to arts museums and galleries (Northeast).

It seems that regions which exhibit generally higher rates of participation are more subject to fluctuations in these rates than regions which exhibit lower rates of participation. The magnitude of the general decline in arts participation which each region experienced is related to its initial level of arts participation. Those regions which exhibit initially low levels of participation registered less obvious declines than those regions which exhibit initially high levels of participation.

The South's average rate of participation across activities, excluding reading, was 9.3% in 1982 and 9.1% in 1985; changes in participation totaled 3.5 percentage points, and resulted in a net loss of only .1 percentage points. The Midwest's average rate of participation across activities, excluding reading, was 11.8% in 1982 and 11.7% in 1985; changes in participation totaled 5.9 percentage points, and resulted in a net loss of 2.5 percentage points.

On the other hand, for the West the average rate of participation across activities, excluding reading, was 14.5% in 1982 and 14.0% in 1985; changes in participation totaled 8.0 percentage points, and resulted in a net loss of 3.8 percentage points. The Northeast's average rate of participation across activities, excluding reading, was 13.0% in 1982 and 11.9% in 1985; changes in participation totaled 8.8 percentage points, and resulted in a net loss of 6.8 percentage points.

The only arts activity which simultaneously declined in all four regions was, interestingly enough, attendance at musicals. Musicals were the most popular live performance even in 1982 among respondents in all regions. Again, the activity with the highest initial rate of participation declined the most.

This suggests that the large audiences which the more popular arts activities attract are less stable than the smaller audiences interested in jazz, ballet, and opera. The national rate of participation in all arts activities, except ballet, declined between 1982 and 1985, although none of these differences are significant, except those for musicals.

IV. SUBREGIONAL DIFFERENCES IN ARTS PARTICIPATION

4.1 SUBREGIONAL COMPARISONS

The percentages of respondents who participated in arts activities are compared by subregions in Table 2. Again, national percentages appear in the last column, and differences in participation between 1982 and 1985 are presented. Only differences of two or more percentage points are considered substantively significant.

These comparisons reveal that arts participation rates <u>within</u> regions are far from constant. The South displays the greatest amount of subregional variation. Although participation rates are generally lowest in the South, rates of participation in Southern subregions sometimes exceed rates of participation in non-Southern subregions. For instance, attendance at jazz performances is significantly greater in 1982 in the South Atlantic and West South Central subregions of the South than in either the Middle Atlantic subregion of the Northeast or the Mountain subregion of the West. In 1982, respondents in these two Southern subregions viewed live ballet significantly more often than respondents in either the East North Central or West North Central subregions of the Midwest. And in 1985, those in the West South Central subregion attended ballet performances at a rate significantly higher than that of respondents in the Mountain subregion of the arts-conscious West, or of respondents in any area of the Midwest. Respondents in the South Atlantic and West South Central

subregions also exhibit a participation rate in 1985 for opera which exceeds that achieved by any Midwestern subregion.

In 1985, the South Atlantic subregion exhibited an attendance rate at musicals which is significantly greater than that exhibited by the Mountain subregion of the West. Also in 1985, respondents in the West South Central subregion visited art galleries and museums significantly more frequently than both respondents in the East North Central subregion of the Midwest and respondents in the Middle Atlantic subregion of the Northeast.

The generally low rates of arts participation which the South as a whole displays **are** obviously due to the influence of this region's East South Central area. In 1982 and 1985, the activity examined in this subregion are markedly lower than the rates displayed by the South's West South Central and South Atlantic subregions. For instance, 8.6% of all Southerners polled in 1982 reported having attended at least one live jazz performance during the year, yet only 7.0% of respondents in the East South Central subregion reported having done so. In 1985, these figures were 8.3% and 4.9% respectively. For the South as a whole, classical music attendance in 1982 averaged 10% compared with 7.1% for the East South Central subregion; these respective figures for 1985 are 9.9% and 6.6%.

Respondents throughout the South attended musicals at a rate of 13.7% in 1982, but respondents in the East South Central subregion attended at a rate of only 9.2%. (In contrast, the West South Central subregional rate for musical attendance in 1982 was 15.2%.) In 1985, the Southern average for musical attendance dropped to 12.7%, but the East South Central rate also dropped, to 7.5%. (An above-average rate of attendance of 14.6% was displayed by the South Atlantic subregion.) East South Central rates for attendance at plays are 6.2% in 1982 and 5.2% in 1985; overall Southern rates are 9.1% and 8.7%. In 1982, the average Southern rate for visits to art museums and galleries was 18.4%; the East South Central rate, 15.8%. In 1985, the average Southern rate was 18.7%; the

Table 2. Percent Reporting Any Participation by Subregion, 1982 and 1985 (Weighted Samples)

	New Eng	Mid Atl	EN Cent	WN Cent	S Atl	ES Cent	WS Cent	Mountain	Pacific	Total
Jazz										
1982	9.6%	8.6%	10.5%	9.2%	8.7%	7.0%	9.6%	8.5%	12.6%	9.6%
1985	9.6	7.8	10.4	10.9	9.2	4.9	9.0	8.4	12.5	9.5
	0	-.8	-.1	+1.7	+.5	-2.1	+.4	-.1	-.1	-.1
Classical										
1982	16.0	12.9	14.3	13.8	10.4	7.1	11.5	18.4	14.7	13.0
1985	18.4	11.2	13.6	17.4	10.7	6.6	10.5	14.3	15.0	12.7
	+2.4	-1.7	-.7	+3.6	+.3	-.5	-1.0	-4.1	+.3	-.3
Opera										
1982	2.7	4.4	3.1	3.2	2.4	1.4	1.7	3.5	3.9	3.0
1985	3.8	3.5	2.0	2.0	2.2	1.2	2.1	3.0	3.5	2.6
	+1.1	-.9	-1.1	-1.2	-.2	-.2	+.4	-.5	-.4	-.4
Musical										
1982	23.2	22.4	18.3	18.5	14.9	9.2	15.2	19.3	23.5	18.6
1985	22.5	18.8	16.6	19.6	14.6	7.5	12.8	12.2	20.8	16.6
	-.7	-3.6	-1.7	+1.1	-.3	-1.7	-2.4	-7.1	-2.7	-2.0
Play										
1982	14.3	13.7	11.9	12.7	9.7	6.2	10.1	12.1	14.8	11.
1985	16.9	12.9	11.3	14.3	9.8	5.2	9.2	9.7	14.3	11.6
	+2.6	-.8	-.6	+1.6	+.1	-1.0	-.9	-2.4	-.5	-.3
Ballet										
1982	6.0	5.4	3.5	3.4	3.6	1.5	4.6	3.9	5.1	4.2
1985	6.1	4.6	4.5	3.5	3.2	2.1	4.6	2.9	5.8	4.3
	+.1	-.8	+1.0	+.1	-.4	+.6	0	-1.0	+.7	+.1
Art										
1982	24.5	21.4	20.7	23.1	18.7	15.8	19.8	28.5	29.2	22.1
1985	24.7	18.5	20.4	22.3	19.3	10.4	23.1	28.3	31.7	21.9
	+.2	-2.9	-.3	-.8	+.6	-5.4	+3.3	-.2	+2.5	-.2
Read										
1982	62.7	56.5	58.1	59.2	50.7	47.2	47.6	65.1	63.5	56.4
1985	57.9	56.8	55.9	58.8	53.7	42.0	49.8	62.4	64.2	56.0
	-4.8	+.3	-2.2	-.4	+3.0	-5.2	+2.2	-2.7	+.7	-.4

East South Central rate, 10.4%. (Respondents in the West South Central subregion visited art museums and galleries at the significantly higher rate of 23.1%.) In 1985, the "average South" displayed a rate of participation in reading of 50.4%, but the East South Central subregion's rate was only 42.0%. (Responderts in the South Atlantic subregion read at a rate of 53.7% in 1985.)

Although subregional variation was greatest within the South, it existed in other regions as well. In 1982 and 1985, rates of attendance at musicals, plays, and jazz performances in the Pacific subregion of the West significantly exceed those in the Mountain subregion. For example, Pacific rates of attendance at musicals are 23.5% in 1982 and 20.8% in 1985, compared to Mountain rates of 19.3% in 1982 and 12.2% in 1985. Pacific respondents attend plays at a rate of 14.8% in 1982 and 14.3% in 1985, compared to Mountain rates of 12.1% and 9.7%. Pacific respondents also attend the ballet and visit art museums and galleries more frequently than Mountain respondents in 1985. (For ballet, respective rates of participation are 5.8% and 2.9%; for visits to art museums and galleries, they are 31.7% and 28.3%.) Classical music is the only area for which attendance rates are significantly greater in the Mountain subregion than in the Pacific subregion, and this is the case only in 1982.

Subregional variation is also pronounced in the Northeast. In general, New Englanders participate more frequently in arts activities compared with people from the Middle Atlantic subregion. In 1982, 16% of the New England population attended at least one classical music performance (vs. 12.9% of the Middle Atlantic population), and in 1985, 18.4% attended (vs. 11.2%). New Englanders visited art museums and galleries at a rate of 24.5% in 1982 and 24.7% in 1985, whereas Middle Atlantic respondents visited at a rate of 21.4% in 1982 and 18.5% in 1985.

The Midwest presents the most homogeneous picture. The average percentage point difference for significantly different subregional rates of participation in the Midwest is only 3.0. For no arts activity did rates of participation

between East North Central and West North Central subregions differ significantly for either 1982 or 1985. In 1982, subregional rates differed markedly only for visits to art galleries and museums; this rate stood at 23.1% in the West North Central subregion and at 20.7% in the East North Central subregion. In 1985, there are significant differences between subregional rates for attendance at classical music performances, musicals, plays, and reading. West North Central rates for participation in these activities are 17.4%, 19.6%, 14.3%, and 58.8%, respectively; East North Central rates, in contrast, are 13.6%, 16.6%, 11.3% and 55.9%.

4.2 SPECIFIC ARTS ACTIVITIES

Of course, subregional rates not only differ from each other; they also differ from national rates. An examination of these differences help to clarify the regional differences already discussed.

4.2.1. Jazz

In 1982 and 1985, the West's Pacific subregion has a significantly higher rate of participation than the nation as a whole, and the South's East South Central region has a significantly lower rate.

4.2.2. Classical Music

In both 1982 and 1985, the Northeast's New England subregion exhibits a rate of participation significantly higher than the national average. In 1982, the West's Mountain subregion also has a higher rate of participation, as does the Midwest's West North Central subregion in 1985. Significantly lower rates of participation are displayed by the East South Central and South Atlantic subregions of the South in 1982, and by all three Southern subregions in 1985.

4.2.3. Opera

Going to the opera is such a uniformly rare activity among respondents that no significant differences between subregional and national rates are observed.

4.2.4. Musicals

In 1982 and 1985, the participation rates of both Northeastern subregions, and the West's Pacific subregion, significantly exceed the national rate of participation. In 1985, the West North Central region of the Midwest also does. In 1982 and 1985, all three Southern subregions fall short of the national rate, and in 1985, the Mountain subregion of the West does as well.

4.2.5. Plays

In 1982 and 1985, the New England subregion of the Northeast, the East South Central subregion of the South, and the Pacific subregion of the West all diverge significantly from national rates of attendance at plays. The New England and Pacific subregions exceed this rate, but the East South Central subregion falls short of it. In 1982, the South Atlantic subregion of the South also failed to make the national average, as did the West South Central subregion in 1985. Respondents in the Midwest's West North Central subregion attended plays in 1985 more frequently than average.

4.2.6. Ballet

Ballet is only a slightly more popular arts activity than opera among our respondents. No subregion exceeds the national rate of participation in this activity. In 1982 and 1985, only the East South Central subregion fell short of it.

4.2.7. Art Museums and Galleries

In 1982 and 1985, both Western subregions, and the New England subregion of the Northeast, have significantly higher rates of participation. In 1982, all three Southern subregions have significantly lower rates, but in 1985, the West South Central subregion's departure from the national rate is less marked. Only the remaining two Southern subregions, and the Northeast's Middle Atlantic

subregion, have substantively significant lower than average rates of visits to art museums and galleries.

4.2.8. Reading

Reading, the most popular activity examined in this report, exhibited the most frequent and consistent subregional variation. In 1982 and 1985, both Western subregions, the New England subregion of the Northeast, and the West North Central subregion of the Midwest have significantly higher rates of participation while all three Southern subregions have significantly lower rates of participation during these years.

4.3 CHANGES BY SUBREGION, 1982 AND 1985

Jazz, opera and ballet show the least subregional change of all arts activities examined. Significant changes in rates of attendance at opera and ballet performances are not observed for any subregion. Rates of attendance at jazz performances declined by 2.1 percentage points in the East South Central subregion.

The percentage of respondents attending classical music concerts increased by 2.4 percentage points in New England and by 3.6 percentage points in the Midwest's West North Central subregion, but declined by 4.1 points in the Mountain subregion of the West. Patterns of attendance at musicals changed in four subregions: the Middle Atlantic subregion of the Northeast, the West South Central subregion of the South, and the Mountain and Pacific subregions of the West. (The biggest change occurred in the Mountain area, where attendance declined by 7.1 percentage points.) Between 1982 and 1985, patterns of visits to art museums and galleries also changed in four subregions. In two subregions, the Middle Atlantic and the East South Central, visit rates declined (by 2.9 and 5.4 points, respectively), and in two other subregions, the West South Central and the Pacific, they rose (by 3.3 and 2.5 points). Attendance at plays

underwent a significant positive change in the New England subregion of the Northeast, and a significant negative change in the Mountain subregion of the West. Attendance increased by 2.6 points in New England, and declined by 2.4 points in the Mountain area.

The amount of time respondents spent reading literature underwent the most pronounced subregional change between 1982 and 1985. All but two of these changes are negative: reading rates declined in New England (by 4.8 points), in the East North Central subregion of the Midwest (by 2.2 points), in the East South Central subregion of the South (by 5.2 points), and in the Mountain subregion of the West (by 2.7 points). Interestingly, the two subregions in which rates of participation in reading experienced a significant increase between 1982 and 1985 are both located in the South. Reading rates increased by 3.0 points in the South Atlantic area and by 2.2 points in the West South Central area.

All subregions experienced a significant increase or decrease in participation in at least one arts activity (including reading) between 1982 and 1985. The Mountain section of the West experienced significant declines in participation in four activities. The East South Central section of the South experienced significant declines in three, and the Northeast's Middle Atlantic region revealed a decrease in two. On the other hand, the Northeast's New England subregion and the South's West South Central subregion are the only subregions to experience an increase in more than one activity; each experienced an increase in two.

To show overall change in arts participation (excluding reading) between 1982 and 1985 for regions and subregions, the information reported in Tables 1 and 2 are presented in condensed form in Table 3. Given differences in sampled households and differences in the number of respondents in 1982 and 1985, caution

Table 3. Summary of Regional and Subregional Differences for Seven Art Areas, 1982 and 1985, Expressed as Percentage Differences[a]

	Jazz	Classical	Opera	Musical	Play	Ballet	Art
NE	-.7	-.7	-.4	-2.9	0	-.6	-2.2
New Eng	0	+2.4	+1.1	-.7	+2.6	+.1	+.2
Mid Atl	-.8	-1.7	-.9	-3.6	-.8	-.8	-2.9
MW	+.4	+.5	-1.1	-1.0	+.1	+.7	-.4
EN Cent	-.1	-.7	-1.1	-1.7	-.6	+1.0	-.3
WN Cent	+1.7	+3.6	-1.2	+1.1	+1.6	+.1	-.8
South	-.3	-.1	0	-1.0	-.4	0	+.3
S Atl	+.5	+.3	-.2	-.3	+.1	-.4	+.6
ES Cent	-2.1	-.5	-.2	-1.7	-1.0	+.6	-5.4
WS Cent	+.4	-1.0	+.4	-2.4	-.9	0	+3.3
West	-.1	-.7	-.4	-3.6	-.9	+.3	+1.8
Mountain	-.1	-4.1	-.5	-7.1	-2.4	-1.0	-.2
Pacific	-.1	+.3	-.4	-2.7	-.5	+.7	+2.5
National Differences	-.1	-.3	-.4	-2.0	-.3	+.1	-.2

[a]Absolute differences of 2 percentage points or more are underlined.

must be used in evaluating small changes between 1982 and 1985. In other words, sampling error may create biased estimates of participation particularly since the participation variables are so highly skewed. However, even when adjusting the z values for the ratio of the unweighted to weighted respondents, any difference of 2% is statistically significant at the .001 level. The conservative conclusions drawn from these results indicate national declines in **art participation** - particular increases in New England **and West North Central subregions** particular declines in the Middle Atlantic, the East South Central, **and the Mountain** subregion, and a mix of increases and declines in the West South Central, and the Pacific **subregion.**

V. REGIONAL DIFFERENCES IN RECREATIONAL AND ARTS-RELATED LEISURE ACTIVITIES

Some of the respondents who answered questions about their participation in arts activities were also asked to provide information about how they spent their leisure time. Leisure time activity questions were divided into a set pertaining to general recreational activities and a set which encompassed more culturally oriented activities. The first set of questions are defined as LEISURE activities in Part II (GOSPORTS through PLANTS). The second set of questions are defined as OTHER PARTICIPATION and are also summarized in Part II (VISCI through PAINT).

The percentages of respondents in the four major regions who participated in recreational activities and arts-related leisure activities are reported in Table 4. Again, national percentages and differences in participation between 1982 and 1985 are presented and differences of less than two percentage points are not considered to merit discussion.

5.1. LEISURE (RECREATIONAL) ACTIVITIES

Participation in leisure activities reported in Table 4 is far higher than participation in the arts activities analyzed earlier.

Table 4. Percent Reporting Any Participation in Leisure (Recreational) Activities by Region, 1982 and 1985 (Weighted Samples)

	NE	MW	S	W	TOTAL
Gomovie					
1982	61.10%	68.29%	56.39%	69.32%	63.05%
1985	58.38	61.34	56.24	61.34	59.07
	-02.72	-06.95	-00.15	-07.98	-03.98
Gosports					
1982	43.87	53.79	43.62	53.88	48.33
1985	40.77	54.04	50.05	51.90	49.72
	-03.10	+00.26	+06.43	-01.98	+01.39
Zoo					
1982	27.47	36.74	26.01	40.29	32.01
1985	26.77	33.80	27.62	35.18	30.70
	-00.70	-02.94	+01.61	-05.11	-01.31
Games					
1982	58.76	74.76	59.43	69.17	65.20
1985	65.24	76.10	45.98	69.52	66.04
	+06.48	+01.34	-13.45	+00.35	+00.84
Amuse					
1982	48.86	55.07	42.70	53.57	49.42
1985	45.13	48.72	43.35	43.02	44.97
	-03.73	-06.35	+00.65	-10.55	-04.45
Jog					
1982	47.68	54.30	46.64	59.41	51.33
1985	53.49	60.26	52.62	61.49	56.69
	+05.81	+05.96	+05.98	+02.08	+05.36
Sports					
1982	37.42	47.08	31.66	44.15	39.40
1985	33.15	47.46	36.01	47.72	40.97
	-04.27	+00.38	+04.35	+03.57	+01.57
Camping					
1982	31.40	44.03	29.15	43.63	36.35
1985	29.33	40.21	31.57	50.54	37.56
	-02.07	-03.82	+02.42	+06.91	+01.21
Books					
1982	84.09	88.81	76.59	89.05	83.86
1985	86.38	90.31	80.63	87.21	85.63
	+02.29	+01.50	+04.04	-01.84	-01.77
Charity					
1982	26.54	34.18	22.53	29.34	27.80
1985	28.95	31.67	25.39	34.41	29.66
	+02.41	-02.51	+02.86	+05.07	-01.86
Collect					
1982	12.87	16.06	14.80	16.80	15.09
1985	14.81	13.42	13.50	19.57	15.08
	+01.94	-02.64	-01.30	+02.77	-00.01
Meals					
1982	29.05	26.60	25.05	38.03	28.82
1985	29.14	27.61	28.45	34.72	29.76
	+00.09	+01.01	+03.40	-03.31	+00.94
Improve					
1982	55.96	65.20	53.44	66.45	59.60
1985	53.49	58.94	54.99	64.06	57.73
	-02.47	-06.26	+01.55	-02.39	-01.87
Plants					
1982	56.88	64.15	56.34	64.98	60.17
1985	53.78	54.28	53.96	58.90	55.11

Virtually every recreational activity has a higher national rate of participation in both 1982 and 1985 than any arts activity, except for reading.

In terms of the percentage of participating respondents nation-wide, the fourteen leisure activities considered rank as follows: reading books (or magazines), playing games, going to the movies, making home and automotive repairs, gardening or tending houseplants, exercising, attending sports events, visiting amusement centers, actively participating in sports, camping, going to the zoo, preparing gourmet meals, doing volunteer work, and collecting.

The highest rates of participation in most individual recreational activities can be observed for the West. The Midwest usually ranked second. In only three cases (visiting amusement parks, preparing gourmet meals, and collecting), does the Northeast occupy a position as high as second place. The South's rates of participation are the lowest for almost two-thirds of the recreational activities examined; when the South moved up to third from last place, the latter position is usually assumed by the Northeast. In only a small minority of cases does the West or Midwest exhibit the lowest rates of participation.

Regional rates of participation in these recreational leisure activities are therefore quite similar to regional arts participation rates. Western respondents generally participate the most in both arts and recreational activities, and Southern respondents participate the least. However, these findings seem more surprising when applied to conventional notions about regional activity in the arts. Although regional stereotypes might lead one to expect high rates of recreational activity in the West, they do not prepare the observer for Western predominance in the arts. The lower rates of recreational participation which Northeastern respondents reported are also less surprising than their lower rates of arts participation.

5.2 OTHER (ARTS-RELATED) LEISURE ACTIVITIES

Although there is considerable regional variation for recreational activities just discussed, this is not the case for arts-related leisure activities reported in Table 5. Rates of participation for these activities are similar in this way to the rates of participation for the seven arts activities already discussed. However, these leisure activities are more popular than arts activities per se, even though they are not as popular as other, recreational leisure activities.

5.2.1. Visits to Science and Natural History Museums VISSCI

In both 1982 and 1985, Western respondents visited science and natural history museums at a rate significantly higher than the national average. In 1982, the Midwestern rate of participation is also significantly higher. During both years, respondents in the South made such visits at a significantly lower than average rate.

5.2.2 Visits to Historic Sites and Neighborhoods VISHIS

In both 1982 and 1985, Midwestern respondents visited historic sites and neighborhoods at a significantly higher than average rate. The Western rate of participation is also significantly higher in 1982. In 1982, the Southern rate of participation is significantly lower; and in 1985, the Northeastern rate of participation is significantly lower, too.

5.2.3. Poetry LISTEN

In 1982, Western respondents read poetry and attended poetry readings at a rate higher than the national average. In 1985, Midwestern respondents also did so. The South's rate of participation is significantly lower than average in 1982.

Table 5. Percent Reporting Any Participation in Other Leisure (Arts-Related), by Region, 1982 and 1985 (Weighted Samples)

	NE	NC	S	W	TOTAL
Vissci					
1982	21.18%	25.68%	18.51%	27.49%	22.90%
1985	23.16	23.10	19.82	29.11	23.26
	+01.98	-02.58	+01.31	+01.62	+00.36
Vishis					
1982	36.02	39.81	31.82	43.12	37.22
1985	32.21	37.84	34.16	37.38	35.51
	-03.81	-01.97	+02.34	-05.74	-01.71
Listen					
1982	19.52	20.67	17.01	23.34	19.84
1985	17.09	21.02	18.49	17.04	18.66
	-02.43	+00.35	+01.48	-06.30	-01.18
Visart					
1982	42.50	46.89	30.76	38.25	39.32
1985	36.94	46.48	36.07	38.74	39.73
	-05.56	-00.41	+05.31	+00.49	+00.41
Class					
1982	11.38	11.80	08.32	11.88	10.67
1985	08.74	10.38	09.26	11.25	09.88
	-02.64	-01.42	+00.94	-00.63	-00.79
Pottery					
1982	13.09	13.05	10.28	13.28	12.26
1985	09.05	11.88	11.03	13.13	11.34
	-04.04	-01.17	+00.75	-00.15	-00.92
Weave					
1982	31.92	34.44	28.50	33.66	31.94
1985	24.77	32.25	25.33	28.38	27.82
	-07.15	-02.19	-03.17	-05.28	-04.12
Playprod					
1982	01.85	02.74	03.00	03.48	02.78
1985	03.75	05.07	01.72	05.10	03.74
	+01.90	+02.33	-01.28	+01.62	+00.96
Musicprod					
1982	01.07	01.00	00.53	01.59	00.99
1985	00.26	00.81	00.26	01.44	00.66
	-00.81	-00.19	-00.27	-00.15	-00.33
Poems					
1982	06.49	05.45	05.62	09.37	06.50
1985	04.58	06.55	04.56	09.95	06.23
	-01.91	+01.10	-01.06	+00.58	-00.27
Movies					
1982	10.07	08.28	11.02	13.09	10.45
1985	08.21	08.54	08.45	15.52	09.87
	-01.86	+00.26	-02.57	+02.43	-00.58
Paint					
1982	10.29	08.53	09.05	12.96	09.94
1985	07.90	09.72	08.28	09.88	08.94
	-02.39	+01.19	-00.77	-03.08	-01.00

5.2.4. Visits to Craft Fairs VISART

Rates of participation in the Northeast, Midwest, and South are significantly different from national rates in 1982 and 1985. Midwestern rates are higher in both years; Southern rates, lower in both years. The Northeastern rate is higher in 1982, but lower in 1985.

5.2.5. Classes CLASS

Southern respondents in 1982 are the only respondents to take creative writing, literature, art, craft, dance, music, and similar classes significantly less often than average.

5.2.6. Pottery, Leatherwork, Metalwork POTTERY

Northeastern respondents engaged in these sorts of craft activities at a rate lower than the national average in 1985. Other regional rates do not differ from the national rate.

5.2.7.Sewing, Quilting, Weaving WEAVE

In 1982 and 1985, sewing, quilting and weaving were not as popular among Southern respondents as they were among other Americans. Midwesterners, on the other hand, appeared to enjoy these activities more than average Americans did during both years. In 1985, the Northeastern rate of participation is significantly lower than the national rate.

5.2.8. Production Work for Plays PLAYPROD

The frequency with which Southern respondents helped put on plays, musicals, operas, and ballets in 1985 was significantly lower than that of the nation as a whole.

5.2.9. Production Work for Jazz MUSICPROD

In no region did respondents help produce jazz or classical music performances at a rate significantly higher or lower than the national average.

5.2.10 Creative Writing POEMS

The Western rate of participation alone differs significantly from the national rate. In both 1982 and 1985, Western respondents wrote stories, poems, and plays at a rate significantly higher than average.

5.2.11 Film and Photography MOVIES

In both 1982 and 1985, the Western rate of participation in the making of movies and videotapes, and the taking of photographs, is significantly higher than average. In 1982, the Midwest rate is lower than average.

5.2.12 Fine Arts PAINT

Rates of participation in drawing, painting, sculpting, and printmaking are unusual only in the West in 1982. Respondents there engaged in these activities at a rate significantly higher than the national average.

SUMMARY

In terms of the percentages of participating respondents nation-wide, the twelve arts-related leisure activities considered here rank as follows: visiting craft fairs; visiting historic sites and neighborhoods; sewing, quilting, or weaving; visiting science or natural history museums; reading poetry or attending poetry readings; doing pottery, leatherwork, or metalwork; taking creative writing, literature, art, craft, dance, music, and similar classes; making movies and videotapes or taking photographs; engaging in the fine arts of drawing, painting, sculpting, or printmaking; writing poems, stories, or plays; helping in the production of a play, musical, opera, or ballet; and helping in the production of a jazz or classical music performance. Again, this rank order is basically the same for all four regions.

Western respondents usually exhibit the highest rates of participation in arts-related leisure activities. In three-quarters of the activities under examination, Western rates of participation are highest. Whenever Western rates

of participation are not highest, Midwestern rates are. However, Midwestern respondents usually rank second in terms of participation. The Northeast is most frequently positioned in third place with the South most frequently last.

5.4 CHANGES IN RECREATIONAL LEISURE ACTIVITIES AND OTHER ARTS-RELATED ACTIVITIES

Of the fourteen recreational activities considered, the national rates of only four activities registered changes of two or more percentage points between 1982 and 1985. Three of these changes are negative. The rate at which respondents at the national level went to the movies dropped by almost 4 percent; the rate at which they visited amusement centers dropped by over 4 percent; and the rate at which they gardened or tended houseplants dropped by 5 percent. However, the number of respondents who spent time exercising increased by 5 percent.

Regional rates of participation are less stable. In the Northeast over two-thirds of these rates show a significant increase or decrease between 1982 and 1985. Two-thirds of the changes are in a negative direction. Attendance at movies and sports events decreased, as did visits to amusement centers and active participation in sports, camping, and gardening activities. The interest of Northeastern respondents in home and auto improvements also declined. Although the activities which exhibit declines in the Northeast are those which require physical effort and time spent away from home, a general trend is not apparent. Significant increases in more passive, home-centered activities like card or electronic games and general reading can be observed, but so can increases in exercise and volunteer work.

Eleven changes are observed between 1982 and 1985 for the West. Only a little more than half of these are in a negative direction. Western respondents saw fewer movies, and visited zoos and amusement centers less frequently in 1985 compared with 1982. They also participated less in the at-home activities of

gardening, gourmet meal preparation, and home and auto repair. Participation in sports, exercise, and camping increased in the West, as did involvement in collections and volunteer work.

In the Midwest, only nine changes are recorded, and the majority of these are negative. Midwestern rates for movie attendance, zoo and amusement center visits, and camping and hiking declined, as did participation in volunteer work, collecting, home improvements, and gardening. The only recreational activity rate that increased in the Midwest between 1982 and 1985 was exercise.

Nine changes are observed for the South, but, surprisingly, only two of these are negative. Southern participation in card or electronic games and in gardening declined, but participation in several other activities experienced significant increases. In 1985, Southern respondents went to sports events and participated in sports, camping, and exercise activities more frequently than they had in 1982. They also showed greater involvement in general reading, gourmet meal preparation, and volunteer work.

Of the twelve arts-related leisure activities considered, only one showed a significant change in its national rate of participation between 1982 and 1985. The rate at which Americans participated in sewing, quilting, or weaving activities declined by four percentage points.

Regional rates of participation are less stable than national ones. Approximately one-half the regional rates significantly changed between 1982 and 1985; more than three-quarters of these changes were in a negative direction.

In the Northeast, all seven of the changes that were recorded are negative. Between 1982 and 1985, Northeasterners visited historic sites or neighborhoods, and craft fairs less frequently, fewer of them read poetry or attended poetry readings, and fewer of them took classes in literature, dance, music, or other arts. The numbers of those who became involved in pottery, leather, or metalwork crafts; who took up sewing, weaving, or quilting; and who participated in fine arts like drawing, painting, sculpting and printmaking also declined.

Five significant changes occurred in the West; four of these are negative. Westerners visited historic sites or neighborhoods and read poetry or attended poetry readings less frequently. Fewer numbers of them spent time sewing, weaving, or quilting; or exploring the fine arts. However, the rate at which Westerners made movies and videotapes or took photographs increased.

The South experienced four significant changes in its rates of participation, but only half of these are negative ones. Southern respondents sewed, wove, or quilted less frequently, and they also spent less time making movies and videotapes or taking photographs, but the rate at which they visited historic sites or neighborhoods, and craft fairs, increased.

Midwestern rates of participation showed only three significant changes between 1982 and 1985. Midwesterners spent less time visiting science or natural history museums, and sewing, weaving, or quilting, but they spent more time helping to produce plays, musicals, operas, or ballets.

In sum, there have been a number of fluctuations in arts-related leisure time activities with an overall decrease between 1982 and 1985. The South is the one region to exhibit actual increases, while the Northeast experienced the smallest declines with the West close behind. The Midwest exhibits the greatest decreases in these activities. Rates of adult involvement in arts-related leisure activities ranged from a high of 89% who read books or magazines to a low of .26% who worked on musical or non-musical productions.

5.5 TELEVISION

Somewhat speculatively, television appears not to be a major alternative to participating in the arts since attendance at arts events and participation in arts-related leisure declined somewhat and total average hours of television watching also declined slightly from 1982 to 1985 (Table 6). For example, relatively fewer people overall reported watching more than three hours of television a day in 1985 compared with 1982. For all regions except the

Table 6. Percent Reporting 0-1, 2, 3-4, 5 or More Hours of Daily TV Watching, by Region, 1982 and 1985 (Weighted Samples)

HOURS	NE	MW	S	W	TOTAL
1982					
0-1	26%	23%	23%	25%	24%
2	26	26	24	28	26
3-4	34	32	32	31	32
5-24	13	80	21	15	17
1985					
0-1	29	25	24	25	26
2	29	28	28	24	27
3-4	30	29	33	33	31
5-24	12	17	16	18	16
Differences, 1982-85					
	+03	+02	+01	+01	+01
	+02	+02	+03	-04	+01
	-04	-03	+01	+01	-01
	-01	-01	-05	+02	-02

West there are declines in the relative numbers reporting either from three to four hours a day or five or more hours a day. The general question as to whether television and leisure activities compete with arts activities is examined in Part X in a comparison of residents of central cities, suburbs, and non-SMSAs.

VI. EXPLANATION OF REGIONAL EFFECTS

In the analysis of regional effects in this study as well as in investigations of attitudes, social values, and even rates of crime and other forms of violence, a basic question is whether observed regional differences are due to population characteristics or due to deep-seated cultural values. In this study both are possibilities and so is the possibility that there may be differences between regions in the supply of art institutions.

As already discussed, the South has consistently low rates of participation in all areas of cultural life considered, whereas the West has nearly consistent high rates of participation. In particular activities, the Northeast is higher than the West and, generally, the North Central ranks third.

The results of a Multiple Classification Analysis for the seven arts areas and reading helps to disentangle purely regional effects from those that are due to differences among the population composition of the four regions. This analysis was carried out for the 1985 survey data, but there is no reason to suspect that the basic conclusions are different for 1982.

In Table 7 the means of each art category are expressed as deviations from the grand mean. For example, the grand mean for the nation for the percent reporting attending classical music performances is 12.72% (not shown) and for the West it is 14.86. Thus, the simple deviation for the West on classical music attendance is 2.14%. The eta's reported in the second column indicate how dissimilar the means on the dependent variable are within the categories of the independent variable. When the means are identical, eta is zero, and when the

Table 7. Multiple Classification Analysis for Regions: Arts Activities and Reading, Controlling for Education, Age, Gender, Income, Marital Status, Number Children, Workhours and Race, 1985 (N = 170, 474)

	Deviations From Means	Eta	Deviations Adjusted for Controls	Beta	F
Jazz					
NE	-1.16		-.81		
MW	.62		.64		
S	-.99		-.52		
W	2.19		.96		
		.03		.02	13.816
Classical					
NE	.46		.17		
MW	1.78		1.69		
S	-2.79		-1.60		
W	2.14		.45		
	.06	.06		.04	94.910
Opera					
NE	.90		.75		
MW	-1.37		-1.46		
S	-.35		-.06		
W	1.43		1.20		
		.03		.03	35.518
Musical					
NE	3.12		2.67		
MW	.48		.22		
S	-3.70		-2.24		
W	2.56		.81		
		.06		.04	103.80*
Play					
NE	2.70		2.48		
MW	-.54		-.63		
S	-1.90		-.82		
W	1.17		-.38		
		.04		.03	49.44
Ballet					
NE	.59		.56		
MW	-.22		-.21		
S	-.76		-.37		
W	1.00		.32		
		.03		.02	15.10
Art					
NE	-1.21		-1.46		
MW	-1.28		-1.56		
S	-3.15		-1.40		
W	8.54		6.06		
		.10		.07	298.41*
Read					
NE	1.06		.28		
MW	-.89		-1.53		
S	-5.43		-2.75		
W	9.63		6.57		
		.08		.05	169.33*

*F significant at .01 level at least

means are very different from one another (and the variances within the categories of the independent variable are small) eta approaches a value of 1.00. Eta squared is the proportion of variance in the dependent variable accounted for by the independent variables. The value of the eta is usually tiny yet still of substantive significance since it reflects the regional inequalities of opportunities or interests in cultural activities between regions. To put this in perspective, the values of the eta's in these equations can be compared with those for education in the same equations that range from .08 in the case of opera to .36 in the case of art museums and art galleries, respectively.

The highest rates of participation for jazz, classical music, opera, ballet, art museums and galleries, and reading are found in the West; the Northeast ranks highest on musicals and plays. The Midwest usually ranks above the South; and with the exception of opera, the South ranks the lowest.

Yet these comparisons fail to take into account the demographic characteristics of the regions and how these characteristics are related to the dependent variables. For example, women tend to go to cultural events more frequently than do men, and the West is significantly deficit in women where as the Northeast has disproportionately many. Also, having many children tends to slightly depress the likelihood of attending cultural events and the North Central has the highest proportion of married people with youngsters. The most important factor that affects the likelihood of attending cultural events is education and the West has the highest median education.

In column 3, the adjusted means are reported that reflect regional differences after controlling for the influences of the following factors: education, age, gender, family income, marital status, number of children, race, and employment status. Under these controls regional differences with respect to participation become smaller as indicated by the values of the partial beta's in column 4. While between-region differences shrink when other variables are controlled, they do not disappear. Moreover, the regions are rank-ordered by

participation in much the same way after controlling for other variables. For example, the West still exhibits the highest rate of participation, the Northeast and Midwest rank second and third, respectively, and the South the lowest. Under controls, however, the Midwest exhibits the highest rates of participation for classical music, the Northeast the highest for ballet, and the South has somewhat higher rates of participation in all arts activities. Because all covariates and factors are controlled simultaneously, it can only be inferred what specific individual variables are responsible for some of the major differences between any given eta and the partial beta.

It can be inferred from comparing regions on the means of the variables in the Multiple Classification Analysis that relatively high rates of participation for the Northeast are due in part to greater numbers of women, relatively high median age, and high percent single. A major reason for the West's superior participation rates is the higher level of educational attainment of Western residents. The South has a low level of income which depresses participation. Once these factors are controlled the differences between the regions become considerably smaller, although they do not disappear. Nevertheless, region is statistically significant (according to adjusted F values, which are approximately one-third of the actual F's) for only three art variables: attending musicals, attending museums and galleries, and reading.

There are two major interpretations that help explain the residual differences, however small, among regions. One is that supply of culture is not equally plentiful in all regions or that the supply varies in quality from one region to another. Of course, the more densely populated areas of certain regions have high concentrations of cultural institutions whereas vast rural areas support relatively few. The second interpretation is that there are genuine regional differences in "taste," with some parts of the country more successfully fostering a cultural climate than others.

VII. EVIDENCE FOR ALTERNATIVE LEISURE PREFERENCES

As demonstrated in Part VI the differences between the South and the remaining regions of the country are in large part due to demographic characteristics, but they are not entirely. When these demographic characteristics are controlled, the South does not exhibit notably low rates of participation on many arts activities but it does on musicals, plays, ballet, and reading. It is possible to examine, however indirectly, the possibility that residents of the South engage in forms of leisure, not generally emphasized in the survey. Local forms of culture that may be especially popular in certain areas of the South may include, for example, country dancing, musical festivals, and fairs. While these are not specifically asked in the survey, respondents in version 4 were asked about their favorite forms of music. The range of music considered is broad enough to include forms that are not universally appreciated but instead are rooted in local traditions.

In Table 8 the percentages of Southern respondents preferring particular types of music are compared with the national percentages. There are distinctive forms of music -- Western, bluegrass, and hymns -- that Southerners are more likely to prefer than people from the nation as a whole. These findings suggest that part of the explanation for why the South ranks relatively low on arts participation is that there is a Southern tradition for particular types of music -- and perhaps for other forms of culture as well -- that are not widely enjoyed throughout the United States. Admittedly, these are scanty results on which to draw a conclusion, but it does tend to suggest that regional differences not only can be partially explained by demographic differences but they may also be due to variation in cultural tastes.

Table 8. Musical Preferences, Percent (Rounded) by South and Nation, 1982 and 1985 (Weighted Samples)

	S	National
Classical		
1982	20%	27%
1985	25	30
	+5	+3
Opera		
1982	6	13
1985	9	10
	+3	-3
Tunes		
1982	14	23
1985	19	24
	+5	+1
Jazz		
1982	22	26
1985	27	33
	+5	+7
Blues		
1982	26	27
1985	29	33
	+3	+6
Big Bands		
1982	24	32
1985	25	32
	+1	0
Western		
1982	59	58
1985	60	53
	+1	-5
Bluegrass		
1982	23	24
1985	26	24
	+3	0
Rock		
1982	30	35
1985	40	42
	+10	+7
Mood		
1982	38	48
1985	46	52
	+8	+4
Folk		
1982	19	25
1985	22	25
	+3	0
Barbershop		
1982	10	14
1985	12	15
	+2	+1
Hymns		
1982	46	36
1985	49	40
	+3	+4

VIII. AREA EFFECTS ON PARTICIPATION

Since it is known that particular individual characteristics -- notably education -- have a pronounced influence on whether or not people are likely to attend cultural activities and also since it is known that particular regions and areas have higher than average levels of educational attainments, it is of particular interest to examine the extent to which geographical influences on cultural participation persist when individual characteristics are controlled. Special tabulations were carried out by the Bureau of the Census for the 1985 survey that permit comparisons of participation rates by area that take into account the individual characteristics of area residents. Table 9 is a summary of the results of a Multiple Classification Analysis that controls for the effects of education, age, gender, income, marital status, children, race, and work hours. The first column provides the names of geographical entities (areas) that have the lowest mean participation rates and the second column provides the names of geographical entities that have the highest mean participation rates. For each arts activity the number in parentheses is the area's deviation from the grand mean for that particular arts activity. Only those results that yield a beta of greater than .07 will be discussed.

8.1 MAIN FINDINGS

Before summarizing the results of individual arts activities it should be noted that area plays an important role in explaining variation with respect to attendance at an art museum or gallery, live musicals, and reading. Area is less important for explaining variation with respect to attending the ballet, jazz performance, classical music performance, or going to the opera. Also included in these analyses is a summary indicator based on the sum of the seven major art participation areas weighted by a factor of ten.

The results for the summary index provide the best overall picture of the findings of this analysis, since the index differentiates between those areas for

Table 9. Multiple Classification Analysis for 24 Areas: Highest and Lowest Mean Participation, Controlling for Education, Age, Gender, Income, Marital Status, Children, Race, and Workhours, 1985[a]

	Lowest Means (1)	Highest Means (2)
Summary Index	Other South, Not SMSA (-22)	Philadelphia (39)
	Other MW, Not SMSA (-15)	Bay Area (25)
	Other W, Not SMSA (-12)	Other W, CC (23)
Jazz	New York Suburbs (-4.63)	Other NE, Not SMSA (6.16)
	Other NE, Not CC (-3.81)	Bay Area (6.12)
	Other S, Not SMSA (-1.74)	Other NE CC (4.33)
Classical Music	New York Suburbs (-5.83)	Philadelphia (3.83)
	Other W, not SMSA (-2.71)	Other W, CC (3.34)
	Other S, Not SMSA (-2.48)	Other NE, Not CC (3.25)
Opera	Other MW, Not CC (-2.34)	Florida-Georgia cities (6.95)
	Chicago (-2.19)	Philadelphia (5.14)
	Other NE CC (-1.74)	New York City (3.21)
	Other S, Not CC (-1.74)	
Musical	Other S, Not SMSA (-6.14)	Philadelphia (14.14)
	Other W, Not SMSA (-5.09)	New York City (8.36)
	Other MW, Not SMSA (-3.04)	LA Area (7.5)
Play	Other MW, Not SMSA (-3.76)	Philadelphia (9.07)
	Other S, Not SMSA (-3.52)	Florida-Georgia Cities (6.56)
	Other W, Not SMSA (-3.30)	Other NE, Not SMSA (3.38)
Ballet	Other S, Not SMSA (-1.56)	Boston (3.69)
	Other W, Not SMSA (-1.44)	Other W, CC (2.56)
	Other W, Not CC (-1.30)	Texas cities (2.37)
Art Gallery/ Museum	Other S, Not SMSA (-6.12)	Bay Area (13.90)
	Other MW, Not SMSA (-5.58)	Other W, CC (10.85)
	Other NE, Not CC (-4.53)	Texas Cities (7.18)
Read	Other S, Not SMSA (-7.91)	Philadelphia (10.65)
	Texas cities (-7.71)	Other W, CC (10.13)
	Other NE, CC (-6.43)	Baltimore, Washington (10.09)

[a]Numbers in parentheses are deviations from grand mean.

which attendance at any type of performance or museum is negligible and those areas for which attendance is relatively high for more than one cultural activity. The main conclusion is that residents of non-metropolitan areas, that is, of small cities and towns and of rural places have the lowest rate of overall participation net of individual characteristics that are known to be related to participation. This is not true for the non-metropolitan North East, but it is true for non-metropolitan areas in the South, Mid West, and West.

In general, Southern nonmetropolitan residents rank low on individual cultural indicators. More specifically, they rank the lowest on the summary index as well as jazz, classical music, musicals, plays, ballet, art museums or galleries, and reading. Another consistent finding is that suburban residents (that is, residents of SMSAs but not of central cities) have relatively low participation rates. Residents of New York City's suburbs rank low on jazz and classical music attendance; residents of North East SMSA suburbs rank low on art museums and galleries and also on jazz; those of Mid West suburbs rank low on opera; and, residents of suburbs of cities in the West rank low on ballet. In particular instances there are low rates of participation observed for the residents of central cities, but the pattern is not striking nor is there much consistency.

For the purposes of comparison, areas with the highest positive deviations from the grand means are reported in column 2. Of interest is the observation that central city residents generally do not have high rates of participation but that central city residents of <u>particular</u> places have high rates of participation. For example, Philadelphia participation rates are highest for the summary index, classical music, musicals, plays, and reading, and these Philadelphia participation rates are quite high for opera as well. The Bay Area is among the top three of the twenty-four geographical areas on the following indicators: the summary index, jazz performance, and museums and art galleries. Besides Philadelphia and the Bay Area, other places that rank relatively high on

particular indicators include the Florida-Georgia cities combined, the Los Angeles Area, New York City, Boston, Texas cities combined, and Baltimore-Washington. Other Western central cities besides Los Angeles and San Francisco also rank relatively high on a number of indicators, but the results indicate that it is not central cities generally that exhibit high rates of participation but rather particular metropolitan places, and most especially Philadelphia and the Bay Area.

8.2 SUMMARY

Independent of the individual characteristics of respondents that tend to promote or to discourage participation in cultural life, the area in which they live exerts an influence on participation. For example, we know from analyses of census data that residents of the West are, on average, better educated than those from other regions, and also residents of metropolitan areas are better educated than those from nonmetropolitan areas. This analysis allows these differences in education and in other respects to be held constant. The results show that regardless of such individual differences, residence has an independent influence on the likelihood of attending performances, museums, or art galleries. There are two alternative explanations for such geographical variation. The first is maldistribution in the supply of culture. The second is that some places have a particular cultural climate that encourages an interest in the arts. It could be argued that the chronic low rates of participation exhibited by residents of nonmetropolitan areas is actually the result of a deficiency of supply, or from the individual's point of view, problems of access and proximity.

At the same time it could be suggested that the best explanation for why particular metropolitan places have exceptionally high rates of participation is that they foster a climate in which a taste for culture thrives. There is some indication from results that will be summarized below that some metropolitan places have facilitated attendance through administrative and planning means. It

appears, for example, that Philadelphians have a broader range of cultural suppliers than most metropolitan places and also that Philadelphia planners have been successful in maintaining adequate transportation and parking facilities, which contributes to the likelihood that people will actually attend a cultural event. But it is likely that the differences between Philadelphia and other major metropolitan places, including New York, Chicago, and San Francisco, with respect to transportation and parking facilities are not so great to explain why it is that Philadelphia has especially high rates of participation compared with, say, Detroit, Chicago, or the Baltimore-Washington area.

IX. REPORTED DIFFERENCES IN INTEREST

9.1 REGIONAL DIFFERENCES

In both years a subsample of individuals were asked whether they would have liked to have attended cultural events more often. When the four major regions are considered (Table 10), Western respondents are generally more likely to say they would have attended more often both in 1982 and 1985. There are a few exceptions. In 1982 Northeast residents were more likely to indicate that they would have liked to have attended more musicals and Midwestern residents indicated they would have liked to have attended more plays. In 1985 Southern respondents were somewhat more likely than those from the other three major regions to express an interest in attending more jazz performances and Northeasterners rank highest (as they did in 1982) in indicating an interest in being able to attend more musicals and also are somewhat more likely than others to indicate a preference for attending more ballet.

These results indicate that residents in those regions in which attendance is highest, namely the West and Northeast, are also more likely to want even more opportunities for attending cultural events. Of course, these are based on ecological (aggregate) responses and it is impossible to know whether the people

Table 10. Regional Differences (Rounded) in Responses, "Would Like to Have Gone More," 1982 and 1985 (Weighted Samples)

	NE	MW	S	W	TOTAL
MORJAZZ					
1982	17%	19%	17%	20%	18%
1985	19	16	20	19	19
	+2	-3	-3	-1	+1
MORCLAS					
1982	18	18	15	24	18
1985	18	14	13	22	16
	0	+4	-2	-2	-2
MOROPERA					
1982	9	6	6	10	7
1985	9	9	6	11	8
	0	+3	0	+1	+1
MORMUSIC					
1982	38	35	25	36	32
1985	37	30	24	28	29
	-1	-5	-1	-8	-3
MORPLAYS					
1982	25	29	19	27	24
1985	26	25	19	27	23
	+1	-4	0	0	-1
MORBALLET					
1982	11	11	10	15	12
1985	15	12	10	15	12
	+04	+1	0	0	0
MORART					
1982	28	32	29	36	31
1985	27	35	27	36	31
	-1	+3	-2	0	0

who are attending relatively frequently are also the ones who are expressing an interest in attending even more. There is some conjectural evidence that the supply of culture enhances demand and these results are not inconsistent with the general inference that plentiful opportunities and relatively high levels of attendance stimulate an even greater interest in cultural activities.

Table 10 summarizes these results for both 1982 and 1985 and also includes information on the increases and declines in the percentages of individuals in each of the four regions who report an interest in attending more often. These results are consistent with those for attendance; specifically, there is not a particularly dramatic shift between 1982 and 1985 with regard to either attendance or expressions of wanting to attend more. Again, it should be emphasized that the difference in time is so small that it would be unwise to extrapolate this as a secular trend. There may be a great variety of reasons for the lack of an increase in either attendance or expression of interest. During this period, unemployment and underemployment were particularly high and one of the reasons given for not attending is the cost of tickets. Therefore, little weight should be given to the small difference scores reported between 1982 and 1985, although together they provide baseline measures for future surveys.

9.2 AREA DIFFERENCES IN INTEREST

The regional analysis just summarized obscures the differences between large metropolitan areas, smaller places, and rural areas. Although Westerners are consistently more likely than people from other regions to attend more cultural events and also to indicate that they would like to have attended even more, a finer classification of places suggests that after taking into account individual characteristics, unique factors affect individuals who live in various places in different ways. Notable among these places are a few metropolitan places -- namely Philadelphia, Boston, Detroit, Chicago, New York City -- where residents express great interest in attending more (Table 11). Specific Western

Table 11. Multiple Classification Analysis for 24 Areas: Highest and Lowest Mean Scores for "Would Liked to Have Had Gone More," Controlling for Income, Age, Education, Gender, 1982[a]

	Lowest Means	Highest Means
Jazz	Philadelphia (-.08) Other NE, Not CC (-.05) Other S, Not SMSA (-.05)	Boston (.13) Detroit (.13) Other NE, CC (.11)
Classical Music	Other S, Not SMSA (-.06) Other MW, Not SMSA (-.04) NY City Suburbs (-.04)	Other W, Not SMSA (.12) Detroit (.09) Other W, Not CC (.07)
Opera	Philadelphia (-.06) Other MW, Not SMSA (-.03) Other S, CC (-.03) Other S, Not SMSA (-.03)	Philadelphia Suburbs (.10) Florida-Georgia Cities (.06) Detroit (.04) Other W, CC (.04) Other W, Not CC (.04)
Musicals	Other S, Not SMSA (-.10) Bay Area (-.09) Other S, CC (-.07)	Philadelphia Suburbs (.16) Boston (.16) Detroit (.16) Chicago (.16)
Plays	Other S, Not SMSA (-.08) Philadelphia Suburbs (-.06) Bay Area (-.06)	Boston (.12) NY City (.09) Detroit (.09)
Ballet	Other S, Not SMSA (-.05) Chicago (-.04) Philadelphia (-.03) Other NC, Not SMSA (-.03) Florida-Georgia cities (-.03)	Philadelphia Suburbs (.10) Other W, Not CC (.05) Other W, Not SMSA (.05) Other S, not CC (.05)
Art Museums/ Galleries	Other NE, not CC (-.12) NY City Suburbs (-.07) Philadelphia (-.07)	Philadelphia Suburbs (.20) Other W, Not SMSA (.10) Other W, CC (.09)

[a]Numbers in parentheses are deviations from grand mean.

cities do not rank high as reporting that they would have liked to have had more opportunities to attend cultural events, but rural and suburban areas of the West are also main sources of discontent about not being able to attend more cultural events. For example, respondents from Western central cities (excluding the Bay Area and Los Angeles) would have liked to have attended more opera in 1982 and also arts museums and art galleries. Respondents from the rural West (not SMSAs) also mention they would have liked to have attended more ballet and art museums and galleries.

And, finally, suburban residents of Western cities (not central cities) indicate they would have attended more ballet. The conclusions, which will be later supported with specific analysis of barriers, is that there are unique problems of transportation and parking in many metropolitan areas that are responsible for urbanites and suburbanites of Eastern cities, especially Boston, for attending fewer cultural events than they would like. On the other hand, although Westerners in general have a keen interest and high levels of participation in the arts, parts of the West are too remote from cities for residents to have many opportunities to attend the cultural events they would like.

There are other areas that have low means on this question, "Would liked to have gone more." There are two patterns that can be observed. There are areas of the country for which there <u>are</u> low participation rates, and residents do not express a particular interest in having more opportunities. The rural South exhibits this pattern. This undoubtedly can be traced to lifestyles, lower levels of education, and perhaps an interest in cultural activities that were not asked in the survey, including country dancing and country music festivals. The second pattern observed for certain areas with low means on the interest variable characterizes those areas that have especially high participation rates, such as Philadelphia and the Bay Area. With plentiful opportunities for cultural activities and, apparently, few transportation problems, people from such places

attend as much as they would like. This by no means indicates that a saturation point has been reached, but rather that relative to other places in the country these residents attend cultural events about as much as they like.

X. REPORTED BARRIERS TO PARTICIPATION

In one version of the survey respondents were asked the reasons why they did not attend live performances and art museums and galleries more often. With great consistency major reasons given were cost and lack of time. Cost was mentioned by the highest percentage of respondents for musicals (11.1%) and plays (7.7%), and lack of time was mentioned by the highest percentage of respondents for art museums or galleries (13.9%) and musicals (12.1%). Relatively small numbers of people mention reasons such as fear of crime, that performances or exhibits are of low quality, prefer to watch TV, or are afraid to go out at night.

However, after cost and lack of time, factors that deal with physical and geographical barriers are relatively important. Three response categories are considered here that relate to such physical and geographical barriers. These response categories are: "not available," "too far to go," and "transportation/traffic, parking problems." The comparisons in Table 12 are based on the 23 areas and 1982 data are used.

It is not surprising that the patterns of answers "too far to go" and "not available" are roughly parallel, which is to say that people who live in areas of the country that are more likely to mention that facilities or performances are not available also are more likely to mention that attending cultural events requires long trips. The area for which disproportionate numbers of people tend to emphasize these as two barriers for attendance for all arts activities is the rural West (the areas outside of Western SMSAs).

Clearly, major geographical obstacles apply to all rural areas, but most especially to the vast Western regions of the country, where a trip to see an

Table 12. Geographical and Physical Barriers to Attendance:
Areas with Highest Percentages Mentioning "Unavailable,"
"Too Far to Go," "Transportation Problems" (1982)

	Unavailable (4.0%)	Too Far To Go (2.4%)	Transportation (1.4%)
Jazz	Other S, Not SMSA (8.9)	Other West, Not SMSA (7.0)	L.A. area (4.9)
	Other NE, CC (7.5)	Other NC, Not SMSA (4.8)	Balt-Wash area (4.0)
	Other NC, Not SMSA (7.1)	L.A. area (4.5)	Other NC, CC (3.7)
	Unavailable (3.8%)	**Too Far To Go (2.9%)**	**Transportation (1.6%)**
Classical	Other West, Not SMSA (15.4)	Other West, Not SMSA (12.4)	Boston (4.4)
	Other South, Not CC (7.1)	Chicago (6.0)	Philadelphia (4.2)
	Other NC, Not SMSA (6.1)	Other NE, Not SMSA (3.8)	Detroit (4.1)
		L.A. area (3.8)	
	Unavailable (1.9%)	**Too Far To Go (1.3%)**	**Transportation (.6%)**
Opera	Other South, Not CC (6.3)	Other West, Not SMSA (4.0)	Other NE, CC (2.7)
	Other West, Not SMSA (6.0)	Other West, CC (3.5)	Detroit (2.7)
	Other West, Not CC (3.6)	Fla-Ga Cities (2.4)	Fla-Ga Cities (2.4)
			Other South, Not CC (1.8)
	Unavailable (6.8%)	**Too Far to Go (5.1%)**	**Transportation (2.6%)**
Musicals	Other West, Not SMSA (18.9)	Other West, Not SMSA (13.4)	NYC suburbs (7.3)
	Other NC, Not SMSA (14.9)	Other NC, Not SMSA (9.4)	Boston (7.0)
	Other South, Not CC (9.8)	NYC suburbs (8.7)	Philadelphia (6.3)
	Unavailable (4.9%)	**Too Far To Go (3.7%)**	**Transportation (1.5%)**
Plays	Other West, Not SMSA (12.9)	Other West, Not SMSA (13.4)	Boston (5.3)
	Other NC, Not SMSA (10.9)	Other NC, Not SMSA (6.9)	Other NE, CC (3.4)
	Other West, Not CC (9.5)	Chicago (6.5)	Other NC, Cc (3.4)
			Philadelphia (3.2)
	Unavailable (3.1%)	**Too Far To Go (1.8%)**	**Transportation (.9%)**
Ballet	Other West, Not SMSA (7.5)	Other West, Not SMSA (7.5)	Fla-Ga Cities (3.2)
	Other West, Not CC (6.0)	NYC suburbs (3.7)	Other NE, CC (2.7)
	Other South, CC (5.7)	Boston (3.5)	Detroit (2.7)
			Boston (2.6)
	Unavailable (7.1%)	**Too Far To Go (5.7%)**	**Transportation (2.2%)**
Artgall	Other West, Not SMSA (18.9)	Other West, Not SMSA (14.9)	Boston (6.1)
	Other NC, Not SMSA (14.2)	Chicago (11.9)	Other NC, Not CC (5.2)
	Other South, Not SMSA (14.2)	Other NC, Not SMSA (10.7)	Phila suburbs (4.8)
	Other NE, Not SMSA (11.3)		

opera or a ballet may involve many hours of driving, which is almost prohibitive unless it is part of a package weekend trip into a major city.

There is another barrier to participation in cultural events that involves spatial arrangements, and that is parking and transportation problems. This is clearly an urban, not a rural problem, although there is variation from one urban place to another in terms of the perceptions of what type of cultural activity is particularly encumbered by transportation problems. In general, Bostonians are more likely to report transportation/traffic/parking problems as significant barriers than residents of other urban areas. Boston ranks highest of all the areas for its residents reporting that transportation is a barrier in the case of classical music, plays, and art museums and galleries, and it ranks just slightly lower than N.Y.C. suburbs in the percentage reporting transportation as a problem for attending musicals.

In the case of jazz, Los Angeles and Baltimore-Washington residents rank highest on transportation problems; Detroit and Northeastern Central City residents rank highest on opera; Florida and Georgia cities rank highest for ballet.

A comparison of these results with the results for Table 11 is useful. Some cities have been particularly successful, apparently, in solving transportation problems. Philadelphia, New York City, the Bay and LA areas, and Texas cities have relatively high rates of participation on at least one of the major cultural indicators, and for none of these cities is transportation rated extremely high by residents as a barrier to participation. Although Bostonians do rank particularly high on ballet attendance they do not rank high on any of the other cultural indicators. At the same time Bostonians rank relatively high on three of the cultural areas in terms of "would have liked to have gone more often." A major reason, apparently, why Bostonians do not attend more cultural activities is due to transportation difficulties. On the other hand, rural Western residents report frequently that they would have liked to have gone more

often to cultural events but in no instance do they rank in the top three in the percentages actually attending cultural events. The major obstacle is the lack of decentralized facilities and the great distance they must go to attend cultural events.

As noted in Part II, special care must be used in interpreting the results for such large cities as Boston and Philadelphia. For the purpose of this survey each is defined to include more counties than the SMSAs of Boston and Philadelphia and are, therefore, relatively large and heterogeneous. However, the results of this analysis highlights two very different problems. Some major metropolitan places would have higher rates of arts participation if they improved transportation and parking facilities. Other areas, notably those in the rural North Central, Western, and Southern regions would have higher rates of arts participation if policies encouraged decentralized facilities and the development of arts programs away from the large major cities. Art facilities, in short, are relatively inaccessible for many North Central and Western rural residents, as well as many residents of the rural South.

XI. LOCATION AND THE ROLE OF LEISURE

It is plausible that leisure activities mediate the effects of individual characteristics on participation in the arts differently depending on community location. Although leisure activities are not found to be an ALTERNATIVE to arts participation, generally, a close examination of SMSA, suburban, and rural differences indicates that leisure activities do have different implications for residents, depending on where they live.

The strategy for this analysis is to compare SMSA, suburban, and rural residents with respect to the mediating role of forms of leisure and television. For example, it may be the case that younger people would attend cultural events more if it were not for the fact that they watched more television on average

compared with older people, and the age-specific effects of television viewing may vary from urban to suburban to rural location.

11.1 PROCEDURES

The dependent variable for these analyses is whether or not the individual participates in any of the seven cultural activities: attends jazz performances, classical music performances, operas, plays, ballet performances, musicals, or attends the museums or art galleries. (That is, the variable is a dichotomy and reading is not included.) The problem is conceptualized in a path analytical framework, which is to say that individual characteristics can exert a direct influence on art participation or they can be mediated via leisure activities.

Three leisure activities are considered: television, passive leisure, and recreational leisure. Television is simply the response given to the question, "Approximately how many hours of television do you watch on an average day?" To obtain indicators of leisure and recreation, answers to a series of questions asked in Version 4 of the survey were factor analyzed. The loadings on two factors are reported on Table 13. Except for the high factor loading of "Go to the movies" on recreational leisure, the results exhibit high face validity. (All results reported in this section are replicated when the single item, "Go to the movies" is substituted for the recreational leisure index.) To compute the index for each form of leisure, factor scores were summed for each individual. Recode statements for all other variables are reported on pages B-1 and B-2.

The results that are presented are modified path analyses. After the full results were obtained variables implicated in insignificant paths were usually deleted unless there were substantive reasons not to do so. The overall results, as reported, are unaffected by trimming the equations. Television viewing is considered first.

Table 13. Factor Analysis of Leisure Activities, 1982 (Weighted Sample)

During the last 12 months:	Factor Loading: Leisure	Recreation
1. Did you go out to the movies?	.12	.67
2. Did you go to any sports events at all?	.07	.68
3. Did you visit a zoo, arboretum, or botanical garden?	.34	.41
4. Did you play card games, board games, electronic games, pinball, or any other similar games?	.10	.67
5. Did you go to an amusement or theme park, a carnival, or similar place of entertainment?	.17	.59
6. Did you jog, lift weights, walk, or participate in any other exercise program?	.26	.57
7. Did you participate in any sports activity, such as softball, basketball, golf, bowling, skiing, tennis or the like?	.03	.71
8. Did you do any camping, hiking, canoeing, or any other similar activity?	.19	.50
9. Did you read books or magazines?	.40	.40
10. Did you do volunteer or charity work?	.45	.16
11. Did you work on a collection such as stamps, coins, shells, or the like?	.43	.17
12. Did you prepare special gourmet meals for the pleasure of doing it?	.62	.13
13. Did you make repairs or improvements on your home or motor vehicle?	.25	.46
14. Did you work with indoor plants or do any gardening for pleasure?	.74	-.07

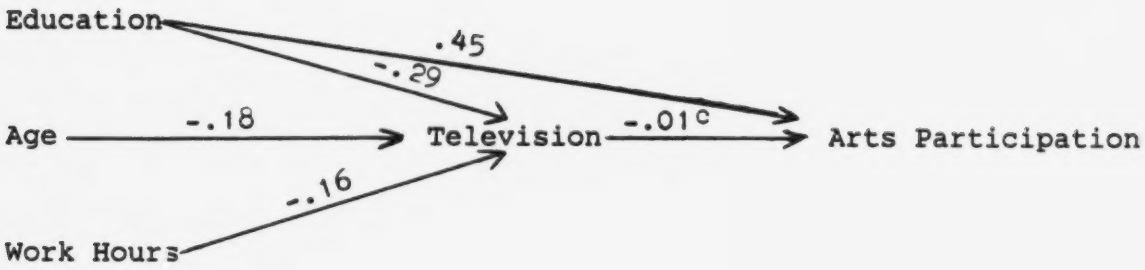
11.2 TELEVISION AND ARTS PARTICIPATION

On the average residents of central cities watch less television than do residents of SMSA suburbs or do residents of non-SMSA's. The mean number of hours reported for these three locations are, respectively, 2.78, 2.84, and 2.86. In general, television watching is negatively related to arts participation; ignoring location, the overall correlation is -.17, but this negative relationship is the strongest for central cities (-.24), less strong for suburban places (-.18), and trivial for rural places (.09).

Although television watching and arts participation are negatively related for central cities the relationship is largely spurious. People who are well educated are more likely to attend cultural events and less likely to watch much television whereas people who are less well educated are less likely to attend cultural events and more likely to watch television. To this extent television does not compete with cultural events. In another respect, however, television does reduce the likelihood of attending cultural events. The major reason why younger people in central cities are less likely to attend cultural events is their preference for watching television. Age has no direct negative effect on arts participation owing to the factor of television watching. Figure 1 traces the influences of individual characteristics on television and arts participation for central cities.

Compared with central city residents, suburbanites are somewhat less likely to attend cultural events and more likely to watch much television. It is also the case that the negative relationship between watching television and arts participation is substantially reduced when individual education is controlled. Education increases the likelihood of attending arts activities and reduces television watching. One other individual variable does play a role in the model that relates television watching and arts participation in the analysis of the suburban subsample. Specifically, people who work long hours watch less

Figure 1: Central City Model: Television and Arts Participation [a,b] (N=3978).

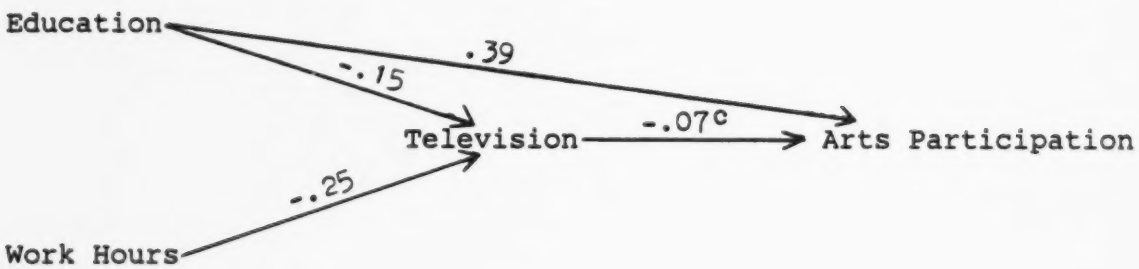


a The simple correlations of arts participation with other variables are: television (-.14), age (-.18), work hours (.15), education (.45).

b All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

c Not significant ($t < 8.5$).

Figure 2: Suburban Model: Television and Arts Participation [a,b] (N=5622)

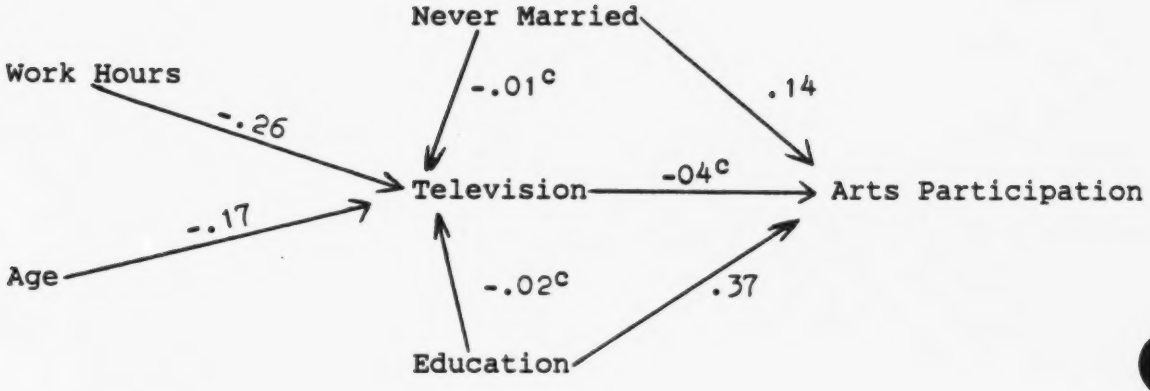


a The simple correlations of arts participation with other variables are: television (-.15), education (.41), work hours (.01).

b All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

c Not significant ($t < 8.5$).

Figure 3: Rural Model: Television and Arts Participation [a,b] (N=3826).



a The simple correlations of arts participation with other variables are: television (-.04), age (-.11), work hours (.06), education (.39), never married (.18).

b All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

c Not significant ($t < 8.5$).

television, although they are not especially less likely to attend cultural events. These results are summarized in Figure 2.

For both central city and suburban residents the negative relationship between television and the arts is largely due to education. This is not true for the non-SMSA, or rural, sub-sample. For this sub-sample, education is positively related to arts participation but has no bearing on whether or not a person watches little or much television. Older people are less likely to watch television, which in turn only slightly (insignificantly) increases their likelihood of attending art events. As is the case with suburbanites, residents of places outside of SMSA's who work long hours tend to watch less television, and whatever effect length of work week has on arts participation is indirect. Also included in this model are marital status (never married) and education. As Figure 3 indicates the influences of marital status and education are exerted directly on art and play no role in the explanation of whether people watch much or little television.

One question is the extent to which television and the arts compete for people's leisure time. After individual characteristics are taken into account the results show that television does not reduce arts participation but television and the arts attract different audiences. That is, individual characteristics play a different role in the models for the three sub-groups. In central cities and suburbs the negative relationship between television and cultural activities is almost entirely due to education. Educated people are more likely to attend cultural events and uneducated people are more likely to watch T.V. Outside of SMSA's age and work hours are the best predictors of watching television, while marital status and education are the best predictors of attending art events.

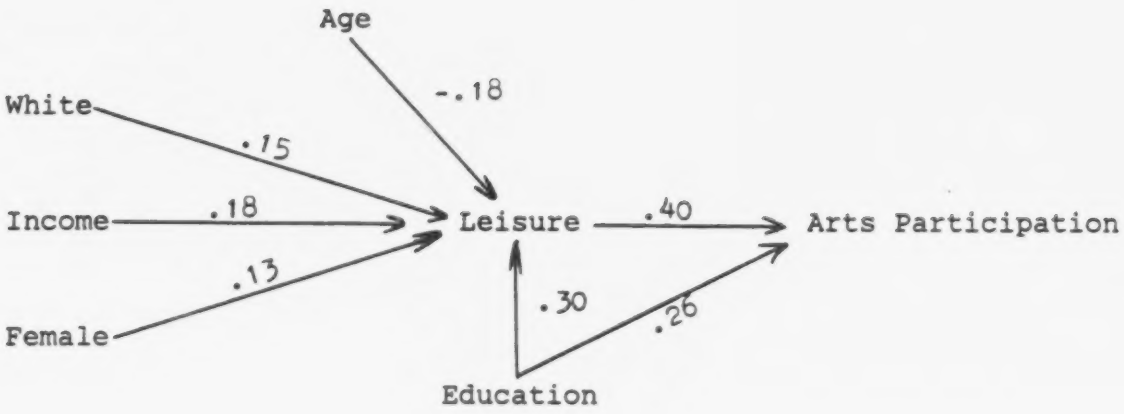
11.3 LEISURE ACTIVITIES

Suburban areas rank highest on the leisure index (mean = 2.01), central cities somewhat lower (mean = 1.86), and rural areas the lowest (mean = 1.73). Unlike television, leisure activities are positively related to cultural activities. The correlations are quite substantial, .48 for central cities, .40 for suburban areas, and .43 for rural areas. Although the model rests on the assumption that there is a unidirectional influence of leisure on cultural activities it is likely that there are reciprocal effects and that they are mutually reinforcing.

The most important factor that influences both cultural activities and leisure activities is education. For residents of all areas education has significant positive effects on both. Assuming that participating in leisure activities enhances the "taste" for culture, education has direct positive effects on cultural activities and it also has indirect effects as it increases involvement in leisure activities and thereby increases involvement in cultural activities.

Other individual characteristics, such as gender and income, play somewhat different roles in the three sub-samples. Although no individual characteristic, other than education, has a direct effect on cultural activities independent of leisure activities, some characteristics do influence the likelihood that a person will engage in leisure activities and, therefore, in cultural activities. The results of the path analyses are summarized in Figures 4, 5, and 6. Among those who live in central cities of metropolitan places the factors that promote interest in leisure activities are having a high income, being female, being relatively young, and white. In suburban areas of metropolitan places race plays no role but the other factors -- gender, youth, and income -- have effects on leisure activities similar to those in central cities. In the rural subsample the extent of participation in leisure activities is increased by the following attributes: race (white), income, and gender (female). Thus, the process

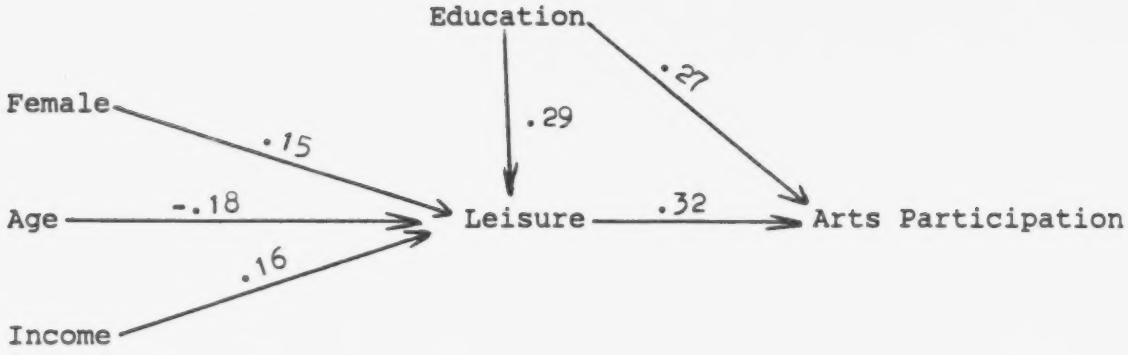
Figure 4: Central City Model: Leisure and Arts Participation [a,b] (N=6728).



[a] The simple correlations of arts participation with other variables are: leisure (.51), education (.43), income (.23), gender (.03), age (-.16), race (.14).

[b] All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

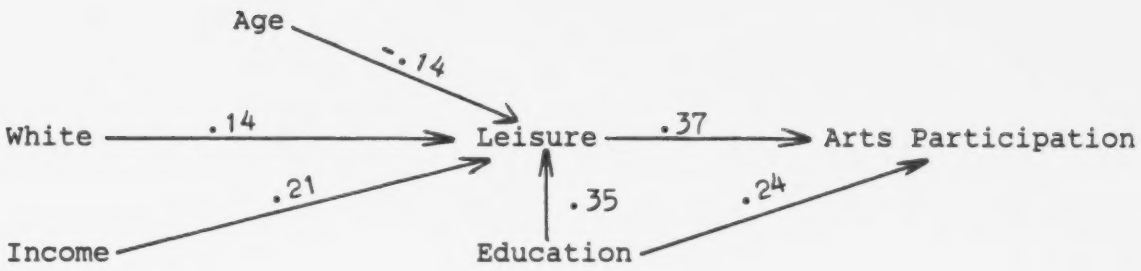
Figure 5: Suburban Model: Leisure and Arts Participation [a,b] (N=10152).



[a] The simple correlations of arts participation with other variables are: leisure (.42), education (.39), gender (.02), age (-.12), income (.23).

[b] All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

Figure 6: Rural Model: Leisure and Arts Participation
(N=8111) [a,b]



[a] The simple correlations of arts participation with other variables are: leisure (.48), income (.28), age (-.16), race (.13), education (.42), gender(.02).

[b] All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

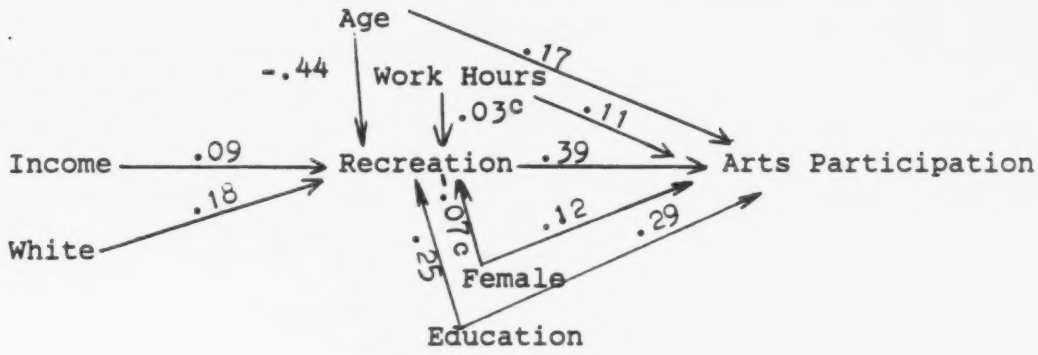
whereby leisure activities enhance the likelihood of being involved in cultural activities is very similar regardless of location. In all three models education has direct and indirect effects, whereas other individual characteristics only exert indirect effects on cultural activities via leisure. Which individual effects are important vary among the three locations, but they include gender, age, income, and race. What is of particular interest here is that they do not exert direct effects on art participation independent of leisure activities. That means that the best explanation for people's interests in the arts is a particular life style that includes such activities as reading, being involved in charity organizations, and cooking, and that other than education, no other personal characteristic is particularly relevant for explaining interest in the arts.

11.4 RECREATIONAL ACTIVITIES

The index of recreational activities (or active leisure) is the sum of factor loadings on the second factor reported in Table 13. The following activities have disproportionate weight: going to the movies, attending sports events, games and amusements, jogging, playing sports, and camping. Like leisure activities, recreational activities are positively related to arts participation; however, individual effects are more complex in the models for recreational activities compared with those in the models for leisure since some of the direct effects are counter to those of the indirect effects. The highest mean score on the index is that for the suburban sub-sample (3.26) with lower mean scores for the central city sub-sample (3.02) and the rural sub-sample (2.72). The simple correlation between recreation and arts participation for the sub-samples combined is substantial and positive (.39).

As the path diagrams in Figures 7, 8 and 9 show, the process by which people become involved in culture through their involvement in recreational

Figure 7: Central City Model: Recreation and Arts Participation [a,b] (N=6728).

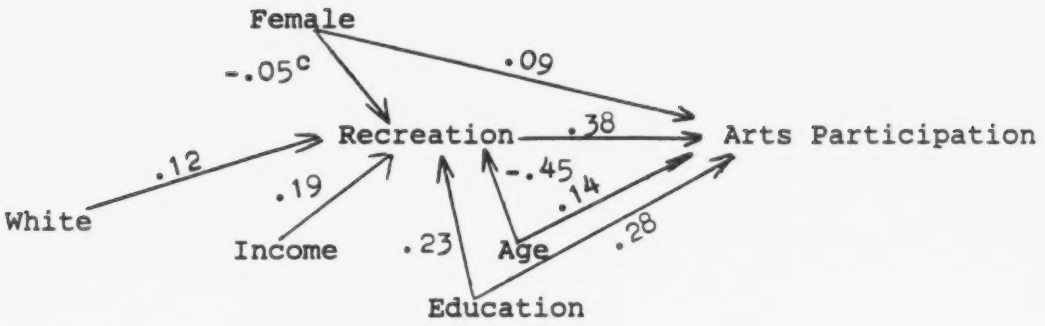


a The simple correlations of arts participation with other variables are: recreation (.44), income (.23), gender (.04), age (-.16), race (.14), education (.43), work hours (.20).

b All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

c Not significant ($t < 8.5$).

Figure 8: Suburban Model: Recreation and Arts Participation [a,b] (N=10152) .

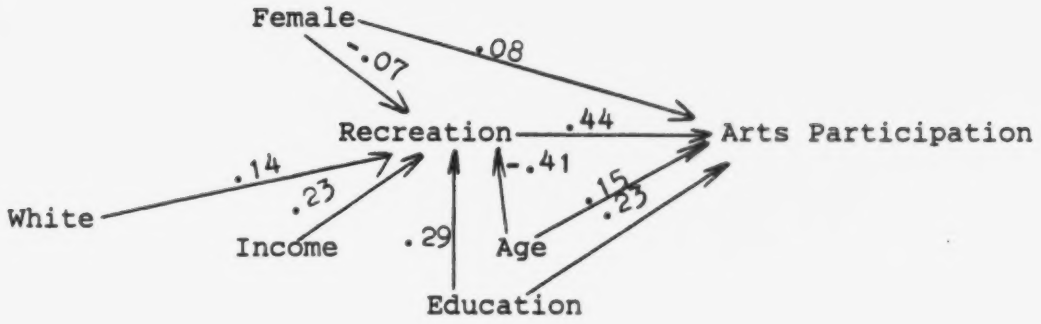


a The simple correlations of arts participation with other variables are: recreation (.41), income (.23), age (-.12), race (.02), education (.39), gender (.02).

b All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

c Not significant ($t < 8.5$).

Figure 9: Rural Model: Recreation and Arts Participation [a,b] (N=8111).



a The simple correlations of arts participation with other variables are: recreation (.48), income (.28), age (-.16), race (.13), education (.42), gender (.02).

b All path coefficients are significant at .01 level ($t > 8.5$) unless noted.

activities is quite similar for central city residents, metropolitan suburbanites, and non-metropolitan residents. Education promotes an interest in active, recreational activities, which in turn, reinforces an interest in culture. When recreation is taken into account, age has two opposite effects on culture. Independent of other factors, age is positively related to arts participation. However, the net effects of age on recreation are negative and quite substantial, as indicated by the path coefficients. Regardless of location older people are less likely to be involved in the arts because of their minimal interest in sports and other forms of recreational leisure, yet disregarding recreational leisure older people are more likely than younger people to be involved in the arts. When both direct and indirect effects of age are taken into account, the net influence is not great. For example, among rural residents the direct effect is .157 and the indirect effect is -.183 (.445 x -.412), which means that the overall effect is negative.

Gender has similar effects on recreational leisure that age does. Specifically, in all three models women are more likely than men to be involved in the arts, but to the extent that women are not engaged in recreational activities they are less likely to be involved in the arts. In all three sub-samples, however, the direct positive effects are stronger than the indirect negative effects so that the net effects are small and positive.

For the central city model alone, people who report working long hours are both more likely to be involved in recreational leisure and in the arts. This finding is consistent with findings reported elsewhere in this report. Work competes with cultural activities, and leisure generally, for people who live relatively far from densely populated urban centers that provide an abundant supply of institutions that support culture. Working long hours does not preclude involvement in either recreational or cultural activities for urbanites. This particular analysis indicates that for urbanites involvement in recreational and cultural activities in fact reinforce one another and this is independent of

factors that influence either recreational or cultural activities or both, such as marital status and having children (variables controlled in the equation).

There are two other factors that influence recreational leisure but influence cultural participation only indirectly via recreational leisure. For all three sub-samples more affluent individuals and whites are more likely to be involved in recreational activities, and only to the extent that high income and being white increase recreational interests do they increase cultural participation. In none of the sub-samples do income and race have direct effects on arts participation.

11.5 SUMMARY

Neither leisure activities nor recreation compete with cultural activities. With the exception of women and older people, who are less likely to be involved in leisure activities and, therefore, in cultural activities, involvement in either leisure or recreational activities tend to reinforce -- or be reinforced by -- cultural activities. The dynamics involved in generating an interest in either leisure or recreation and culture are virtually identical for suburbs and non-metropolitan places. Specifically, of all individual characteristics education plays the major role. In both suburbs and non-metropolitan places, the higher the level the education the greater will be an interest in the arts as well as recreation and leisure. In both models age has negative effects on leisure and also on recreation, but positive effects on art only when recreation is included in the equation. This can be interpreted to mean that for older people involvement in relatively inactive leisure activities does not imply that they will be less likely to attend cultural activities. Yet because older people are less likely to be involved in recreational activities they are less likely to be involved in cultural activities. In both models gender has a role that mirrors that of age. The strong reinforcing relationships between art and

leisure are reduced for women because they are less involved in active leisure activities.

The models for central city residents are very similar to those for the suburban and rural residents for both leisure and recreation. There is one exception that is of some interest. Long work hours slightly (but insignificantly) reduce cultural activities for suburbanites and rural residents. However, for people who live in central cities long work hours has both a positive direct effect on cultural activities and an indirect positive effect via recreational leisure. The unique advantage offered by a very large place is the close proximity of cultural institutions, parks, health clubs, and other leisure and recreational facilities. Independent of income, age, education, gender, and race, the individual who works long hours is more likely to take advantage of such institutions and facilities than someone who works less.

In the case of the analyses that include television there exist clearer locational effects. Central city and suburban residents are different from others in that the initial negative relationship between watching TV and cultural attendance is completely explained by an individual variable, specifically education. Educated individuals tend to go more to cultural events than watch TV and less well educated people tend to watch TV more than attend cultural events but watching much television does not reduce arts participation. In rural areas education and marital status have direct positive effects on cultural activities but they do not influence television watching. Instead, younger people and people who work few hours are more likely to watch television, but are not less likely to attend cultural events.

XII. THE ROLE OF SOCIAL CONTEXT: CROSS-LEVEL INTERACTION EFFECTS

Context -- whether it be the firm of employment, the neighborhood, the city, or the nation -- plays an important role in shaping opportunities and also in exerting constraints on choice and behavior. Participation in cultural

activities is highest in the central cities of metropolitan places and part of the explanation is the greater prevalence of cultural institutions in major metropolitan centers compared with suburban or rural places. One of the factors employed in this section of the report to account for variation in participation is location. As in previous sections of the report, location is defined in the following terms: central city, or the most densely populated core of a Standard Metropolitan Statistical Area (i.e., a city or cities with a population of at least 50,000); suburbs, the less densely populated urban and suburban portions of an SMSA; and non-metropolitan, or the rural areas and relatively small cities that are not part of an SMSA.

Independent of the classification of place by the extent to which it is urbanized or not, it is possible to describe individuals by the social and economic characteristics of the places in which they live. In this analysis of the full weighted sample for 1982 the places -- specifically, the PSUs -- in which individuals live are described by mean characteristics of sampled respondents, such as mean education and mean income. This makes it possible to determine whether or not place characteristics influence arts participation independent of individuals' own characteristics. In the full analysis interaction terms involving location, place characteristics, and individual characteristics are presented. To anticipate the conclusions, it is shown that the effects of an individual's characteristics on arts participation depend on whether or not the person lives in a large, central city, or in the periphery of the central city, or a relatively rural place or small town, but the effects of location depend on the characteristics of the place -- the social environment of individual residents.

12.1 PROCEDURES

A primary sampling unit is a county or group of contiguous and relatively homogeneous counties that is used by the Bureau of the Census for sampling

purposes. The primary sampling units are used for many surveys, including the Survey of Public Participation in the Arts (of which a total of 407 include sampled respondents). For reasons of confidentiality the actual identities of the PSUs are not disclosed by the Bureau of the Census, but they are selected to ensure that any given sample will be highly representative of the population at the level of a region, and reasonably representative at the level of states and metropolitan areas, and to a lesser extent, counties. Certain PSU's are included in every sample; for instance, PSU's for county or counties representing the largest metropolitan places, which are called self-representing PSU's, are always in a sample whereas others are selected to represent certain particular sections of the country and are selected according to sampling requirements. Because PSU's are defined to **minimize** within-group variance, they are superior to most units used in any national study for the purpose of examining aggregate characteristics of place. All group variables used in this analysis are based on PSU means whose values are assigned to individuals residing in the given PSU.

Cross-level interactions between individual characteristics, such as education and residential location are assessed by the product terms comprised of the individual's score and the locational variable. Also examined are the cross-level interaction terms for location and PSU means. Because the explanatory variables in the model are transformations of each other, high inter-correlations among the indepencent variables lead to difficulties in the estimation procedure. A solution to this difficulty was to re-estimate the intercepts and slopes as functions of the group means, a technique that makes it possible to assess the unique contribution of each explanatory variable to the total explained variance (see Boyd and Iversen, 1979).

A main consideration in the regression procedure used is the selection of a variable only if it meets a conservative level of significance. The final model is based on a stepwise regression estimation technique with a minimum F of 74 for entry and an F of 70 for removal. For purposes of clarity in the presentation,

location variables are preserved in the final equation, whether they are significant or not. Although group means that are themselves not significant but are significant in cross-level interactions are deleted from the model since including them does not alter the results.

12.2 FINDINGS

12.2.1. Individual Variation by Location

Table 14 provides location means for all individual characteristics that were initially considered in the analysis and means for location dummy variables. Residents in central cities and suburbs have far greater rates of participation than do residents in non-metropolitan places. Mean differences on other characteristics indicate that the non-metropolitan residents also are more likely to exhibit those characteristics that have been reported by Robinson et al. (1985) to be negatively related to art participation, notably, they have a lower average level of education and income compared with people from other places. For each of the individual-level variables reported in Table 14, mean scores for PSU's were computed, along with cross-product terms for individual scores and location, and, finally, cross-product terms for location and mean scores. Correlations are reported in Table 15.

12.2.2 Results for Location and Context

Table 16 summarizes the results for the equation yielded with the procedures described above. Although individual characteristics are of greater importance than location, context, and interaction terms combined, the results clarify why it is that location and context have the effects they do and, moreover, how they advantage or disadvantage people with particular characteristics. Combined, location and context account for 6 percent of the variance. Also, it is of interest that of all the mean group variables considered, the only two that are significant under controls are the proportion of never married adults and mean

Table 14. Means for Sub-samples, 1982 (Minimum N = 150,094)

	Central City	Suburban	Non-Metropolitan	eta*
Art Participation Index	.98	.94	.57	.139
Gender (Female)	.54	.52	.53	.017
Marital Status (Never Married)	.27	.20	.16	.099
Education	3.25	3.45	3.02	.133
Family Income	3.36	3.99	3.31	.235
Race (White)	.77	.91	.90	.173
Work hours	22.49	23.98	21.16	.055
Age	3.30	3.25	3.54	.058
Kids	.25	.29	.30	.046

*The adjusted F test used is F times the square root of the ratio of the unweighted N to the weighted N. All eta's are significant at the .001 level at least, except gender, which is not significant.

Table 15. Correlations for Non-location Variables, 1982 (Means and Standard Deviations) N = 150,094

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.	Art Index	--										
2.	Gender	.05	--									
3.	Marital Status	.10	-.07	--								
4.	Education	.44	-.07	.12	--							
5.	Family Income	.23	-.11	-.09	.35	--						
6.	Race	.08	-.02	-.09	.08	.18	--					
7.	Work Hours	.07	-.31	.05	.23	.28	.02	--				
8.	Age	-.08	.05	-.40	-.27	-.16	.06	-.27	--			
9.	Kids	-.06	.03	-.28	.05	.05	-.04	.05	-.27	--		
10.	Never Married $\bar{x}$	.12	-.01	.24	.08	-.03	-.12	.00	-.09	-.10	--	
11.	Education $\bar{x}$	.24	-.01	.06	.32	.23	.06	.07	-.09	-.01	.25	--
	$\bar{x}$	.84	.53	.21	3.25	3.69	.87	23.	3.3	.47	.21	3.2e
	s.d.	1.33	.50	.40	1.36	1.37	.33	22.	2.0	.87	.10	.44

Table 16. Results for Location, Context, Individual and Interaction Effects, 1982 (N = 150,094)

	b(s.e.)	t*
Non-metropolitan (NM)	-.042(.008)	-1.58
Central City (CC)	.172(.008)	6.43
Proportion Never Married	.571(.036)	4.80
Education $\bar{x}$	.261(.008)	9.76
Gender	.304(.007)	12.08
Kids	-.064(.004)	-4.90
Race	.132(.012)	3.21
Age	.049(.002)	5.78
Income	.110(.003)	10.58
Education	.402(.003)	40.44
Never Married	.135(.011)	3.79
CC x Work Hours	.036(.003)	3.67
CC x Age $\bar{x}$	.132(.015)	2.66
CC x Never Married	.205(.016)	3.74
CC x Race	.185(.020)	2.90
CC x Race $\bar{x}$	-.611(.046)	-4.02
NM x Education	-.098(.005)	-5.50
NM x Income	-.072(.005)	-4.13
NM x Age	-.033(.003)	-2.96
NM x Gender	-.127(.013)	-2.92
Constant	-2.324(.033)	

R^2 = .24

*Values of reported t's have been multiplied by the square root of the ratio of the unweighted N to the weighted N.

education. Although PSU's exhibit great variation with respect to, say, mean income, these other aggregate characteristics do not play a significant role independent of individual characteristics and independent of the interaction terms in which some of them are included. Thus, the average educational attainment of the community and a preponderance of single people have positive influences on whether or not the individual is likely to attend cultural events. Since education and marital status are in the equation, these group effects are independent of individual effects.

There are two plausible reasons for why mean education and marital status of community residents have influences on individuals' cultural lives independent of individuals' own education and marital status. The first explanation is that these two particular individual characteristics are especially important for life styles, that is, they have PUBLIC meaning. The presence of many college graduates and postgraduates in a community may make that community attractive for a variety of services and shops (such as cinemas, boutiques, restaurants) as well as for artists and cultural suppliers. The second explanation is that when there are large numbers of single or well-educated people in a community they provide the basis of a critical mass and thus, exert a strong consumer demand for dance, art galleries, and other cultural activities.

12.2.3. Individual Characteristics

Of all the individual characteristics considered (see Table 14) only one, work hours, failed to reach significance in the full model. The reason for this is that its influence only depends on residential location, as we shall later see. Briefly, however, the results for the individual variables replicate the findings reported by Robinson et al. (1985). For example, education is the best predictor of arts participation, although other factors, such as income and age also play a role in explaining why some individuals are more likely to attend cultural activities than others. It should be noted, however, that the values of

the coefficients reported in Table 16 will not correspond to those reported by others since part of the effects of individual variables are captured in product terms and part of their effects are actually group, not individual, ones.

12.2.4 Location Specific Effects

The first comparison is central city location vs. the remaining two locations. Regardless of a person's age, central cities that include a disproportionate number of older people are more likely to increase an individual's involvement in the arts. Moreover, the larger the proportion of older people, the greater is the influence of central city on attending art events, undoubtedly because commuting from far away to cultural institutions disadvantages attendance of older people more than young ones. The larger the number of blacks, hispanics, and other non-whites in large cities the greater is the likelihood of an individual to attend cultural events. Since being white in a central city also increases the likelihood of attending cultural events, the findings are provocative. They suggest that a large non-white population expands cultural opportunities but at the same time discourages nonwhites from taking advantage of these cultural opportunities.

As noted earlier, the simple variable, work hours, is not significant in the equation and this is because it has no influence except in the interaction term. People who work long hours are not deterred from attending cultural activities so long as they live in a central city. The suburbanite or the non-metropolitan resident who has a long work week is particularly handicapped in leisure activities, such as attending cultural events, since this inevitably means considerable travel time above and beyond the demands of work and travel to work. Thus, going to the theater or a concert is easy for the urban resident, and in fact, more -- not less -- likely when the urban resident works long hours. A trip to a concert becomes the relaxing end of a long day, presumably when it

does not entail a long trip home and then a return trip but rather simply stopping off on the way home from work.

Marital status is an important factor in this analysis and its effects are partitioned between an individual effect, a context effect, and a cross-level interaction effect. Although in general being single and also living in a community in which there is a high proportion of single people increases the likelihood of an individual attending cultural events, living in a central city makes it particularly likely that single persons will be involved in cultural activities. There are probably a number of factors operating. First, since there are higher proportions of single people living in central cities than elsewhere, cultural norms probably do not discourage single people from going out alone; second, without families, single people are probably especially likely to take advantage of the city's cultural life; and third, cultural events also provide opportunities for meeting people.

In sum, people who live in central cities are more likely to participate in cultural life than people who live outside of central cities or of SMSAs. Besides, there are other attributes that jointly with location in central cities increase participation even further. These include the mean age of residents, the percent nonwhites, the extent to which the individual works long hours, is white, and has never been married. The contrast in each of these instances is between central city and the two other locations combined. Another series of interactions contrasts non-metropolitan residents (NM) with central city and all other SMSA residents combined.

In important ways these interactions involving non-metropolitan places demonstrate that the main characteristics of non-metropolitan residents that reduce their likelihood of attending cultural events are the same characteristics that increase the likelihood of people living elsewhere to attend these events. For example, attributes that have a positive overall influence on arts participation include education, income, age, and being female. The last four

terms in the regression results demonstrate that these individual characteristics reduce cultural participation for individuals who live outside of SMSA compared to SMSA residents. This means that the positive effects of education, income, age, and gender on attending art events are considerably reduced for people who live outside SMSAs.

In other words, the individual model that has been developed earlier (and which is replicated here) holds primarily for metropolitan places and does not especially hold for rural places and small towns. In these places the participation reported is about one-half that of central city and suburban populations, and the results of the analysis suggests why. Those background characteristics that typically enhance people's interest in the arts are primarily salient for people who live in relatively close proximity to diverse cultural opportunities, not those who live outside of SMSA's.

12.3 SUMMARY

Although the individual characteristics that influence arts participation are fairly well known, the influence of location, community characteristics, and location-specific effects have not previously been examined. People who live outside SMSA's are particularly disadvantaged because of the scarcity of cultural facilities. The mean participation index for non-SMSA residents is .57 compared with .98 for residents of central cities and .94 for residents of places outside of the central cities of SMSAs. After taking location, community characteristics, and individual characteristics into account the location specific effects were examined. It is useful to know that central city residents -- who are already advantaged by proximity -- are specially more likely to attend cultural events if they work long hours, are single, and white. Paradoxically, white residents of central cities are more likely to be involved in the arts while central cities with disproportionately many blacks are more likely to encourage individual involvement. This means that nonwhites are generating a

congenial climate for culture (that is, there is higher attendance in central cities with disproportionate numbers of nonwhites) but nonwhites are not the beneficiaries of it.

In contrast with the findings for central cities (vs. the other two locations), the findings for rural and small town places (vs. the other two locations) demonstrate quite clearly that what generally promotes individual interest in the arts does not in rural and small towns. There residents who are well-educated, have high incomes, are older or are female are less likely to be involved in cultural activities compared with SMSA residents with those personal attributes. One could ask about the relative importance of location, context, and location specific effects compared with individual characteristics. Together the location and context factors explain .064 percent of the variance, the individual characteristics, .171, and the interaction terms explain .007. But to the extent that location is a proxy for supply and to the extent that individual characteristics predict attendance best when there is a sufficient supply of cultural activities, one suspects that greater geographical equality on the supply side would greatly enhance cultural involvement and reduce the inequalities in participation that do exist.

XIII. A REPLICATION USING THE 1985 SPPA DATA

13.1 PROCEDURES

Two objectives guided the strategy for the replication. One objective was to estimate the reliability of the 1982 survey, and a second was to determine whether factors that were identified as influencing art participation remained the same or were different for the two time periods. As noted, the cross-level effects observed for 1982 are of theoretical interest but they are not powerful influences on individual arts activities; for this reason they are not included in the replication. In order to fully test the persistence of factors identified

in the 1982 model and to examine the possibility that other factors might also be relevant in 1985 that were not in 1982, all individual characteristics and their aggregated counterparts are included in the regression analysis. That is, variables were force-entered rather than entered in a stepwise procedure. Another difference between the 1985 analysis and the 1982 analysis is that for the 1982 survey individuals who mentioned they had worked no hours the week prior to the survey were assigned a value of zero for the variable, "work hours." For the 1985 analysis individuals not in the work force were assigned a missing value on the variable. Although this is not the most efficient way of assessing the effects of employment and those of work hours separately, the results show that the consequences of examining work hours regardless of employment status or of examining actual work hours for people in the labor force are negligible. With the exception of the variable "work hours" the means for the independent variables differ very little for the two surveys. On the other hand, the mean on the art participation index is slightly lower in 1985 than in 1982 (.80 compared with .84).

13.2 RESULTS

13.2.1 Effects of Location and Context

As in the previous analysis, the omitted location is suburban residence, and the main contrast is between residents of central cities who are more likely to participate in arts activities than others and residents of rural places and non-metropolitan cities who are least likely to participate in arts activities (Table 17). Of all the characteristics of locations (as defined by PSU's), only two have independent effects on the likelihood that an individual will attend cultural performances or museums. Regardless of a person's education and regardless of marital status, living in a community with a high mean level of education and a high percent of never married individuals makes it more likely that a person attends arts events. Education mean and the percent never married

Table 17. Regression Results for 1985 SPPA (Weighted Sample)

	r	b(s.e.)	Adjusted t[a]
Location and Context Variables			
Central City	.06	.124(.010)	3.77**
Not Metropolitan	-.15	-.113(.010)	-3.21*
% Females	-.01	-.011(.068)	-.05
Mean Number of Kids	-.05	.100(.022)	1.81
Work Hours mean	-.04	-.008(.001)	-2.04
% White	.01	-.089(.030)	-.88
Age Mean	-.09	.048(.009)	1.52
Income Mean	.15	-.020(.009)	-.67
Education Mean	.25	.190(.012)	4.75**
% Never Married	.12	.662(.051)	3.88**
Individual Variables			
Female	.05	.214(.008)	7.99**
Number of Kids	-.05	-.069(.005)	-4.09**
Work Hours	.01	-.056(.030)	-.56
White	.08	.190(.013)	4.31**
Age	-.07	.024(.002)	3.01*
Income	.25	.079(.003)	8.16**
Education	.45	.374(.003)	34.02**
Never Married	.08	.116(.011)	3.02*
Constant		-1.566	
R^2		.24	

[a]See note Table 16

**p < .001
*p < .01

are, in fact, the only two context factors that exert an influence on individual participation in the 1982 analysis. Again, there are two possible interpretations. One is that a population with high educational attainment or a high proportion of single people creates a climate that generates great interest in cultural life, and this climate tends to influence the members of the entire community. The other interpretation is that these are precisely the demographic characteristics that enhance supply, and it is the supply, or the opportunities, that increase cultural participation, notably of well-educated and of single people.

13.2.2 Individual Effects

The same individual characteristics that played a role in the analysis of the 1982 survey are important in the results for the 1985 survey. Specifically, women are more likely to attend arts activities than men; the number of children a family or individual has reduces the likelihood of attending cultural activities. Also, whites, older people, people with high incomes, and individuals who have never been married are more likely to attend arts activities than blacks, younger people, less affluent individuals, and individuals who are currently married or were at one time. Finally, education plays the most important role in explaining individual variation in art participation. The one individual characteristic that plays no role in the explanation is length of the work week, which is also true for 1982 (although in the 1982 analysis people who were not then in the labor force were included while they are not in the results presented in Table 17).

13.3 SUMMARY

This analysis is different in three respects from the one presented in Part XI. First, people not in the work force are excluded on the work hours variable in the 1985 analysis; second, all main effects are entered in the equation for 1985 to test whether or not any variable that had not influenced art

participation in 1982 does in 1985; third, because of the minor role played by interaction effects in 1982 they are not included in the 1985 analysis. Nevertheless, the results for all main factors obtained for 1982 are perfectly replicated for 1985. In this analysis individual and other variables play virtually the same role as they do in the 1982 analysis. Location and context effects together account for 7% of the variance and individual variables account for 17% of the variance.

On the basis of earlier research we have learned a great deal about the influences of particular individual characteristics on arts participation -- most especially education -- and the results presented here and in the last section replicate the results of that research. This analysis also shows that community characteristics -- notably mean education and the proportion of people who have never been married -- have effects on arts participation independent of the characteristics of individuals. The role played by the social structure and by cultural opportunities (**i.e**,supply) is difficult to determine on the basis of the evidence presented here. In the final section, results are presented that have bearing on this issue.

XIV. SOCIAL INEQUALITY, CULTURAL OPPORTUNITIES AND INVOLVEMENT IN THE ARTS

We are now turning to differences in the social structure and cultural opportunities among the largest 125 metropolitan areas in the United States to examine how these differences in social environment, independent of a person's background characteristics, influence her or his interest in the arts, as indicated by their having attended art events in the past year preceding the survey in 1982.

Previous research of ours (P.M. Blau et al., 1986; J.R. Blau, 1986b) has shown that the extent of social inequality in an SMSA is inversely related to the prevalence of art institutions in it. Of several forms of inequality -- in

education, income, and socioeconomic status (based on Duncan's [1961] SEI) -- the overall form of class inequality, as indicated by Duncan's socioeconomic index -- is the one that primarily exerts the negative influence on the development of art institutions in a metropolis. The interpretation suggested was that the fragmentation of artistic tastes and demands implied by much social inequality and the relatively small middle class also implicit in much inequality diminish cultural pursuits and interest in attending art events, which is detrimental for the development of art institutions, such as symphonies, theaters, ballet companies, and museums. This interpretation evidently implies that social inequality reduces people's demand for art as well as the growth of art institutions.

The data analyzed in this report refer to individuals' interest in art, as manifest in their reports of art consumption and attendance at artistic events. These data reflect people's demand for various art forms and thus are suitable for testing the interpretation that social inequality depresses not only the institutions that supply art but also the demand for art in a metropolis. To conduct this test, we now analyze the responses given in the 125 largest SMSAs as influenced by social inequality, controlling both other SMSA conditions that may influence interest in the arts and individuals' background characteristics that exert such influences.

If social inequality is found to affect consumption of art and attendance at art events, we shall seek to answer several other questions to further clarify the observed relationships. Is people's interest in art primarily influenced by the overall measure of socioeconomic inequality, as in the case of art institutions, or by other forms of inequality? Do these influences persist if the characteristics of individuals that affect their expressed interest in art are controlled? An abundance of art institutions in a metropolis enhances the opportunities of people to attend artistic events, which may imply that any observed influence of social inequality on attending art events may be mediated

by the prevalence of relevant art institutions, which we already know to be negatively affected by social inequality. In other words, is the negative influence of inequality on the demand for art mediated by the fewer institutions providing opportunities to enjoy art in metropolitan places with much inequality, or does inequality exert independent influences on the demand for and the institutional supply of art?

14.1 PROCEDURES

The data pertaining to the conditions in the 125 largest American SMSAs are derived from a large file we have created in previous research (P.M. Blau and Schwartz, 1984; the data are fully discussed there, especially pp.16-24, 219-30). The data on art consumption and attendance at art events for nine forms of art and eight background characteristics come from the NEA survey previously described. Only those referring to residents of the 125 SMSAs are analyzed here, together with the contextual variables pertaining to the SMSA conditions of interest. The U.S. Bureau of the Census, which conducted this survey for the NEA, did not supply us with data on individuals but only with 125 covariance matrices of all variables, one for every SMSA. We combined these matrices, together with the relevant variables describing the SMSAs, into a matrix for the entire country, which made it possible to perform regression analysis of the seven dependent variables indicative of participation in seven forms of art on both the attributes of individuals from the survey and the contextual variables pertaining to the SMSA where they live.[1]

The first of two sets of regression analyses to be performed examines the influence of inequality on the average art consumption per capita in a metropolis for seven forms of art, controlling other SMSA conditions. (The reason for analyzing art demand per capita rather than aggregate demand is that the latter is so strongly influenced by population size that virtually no other influences can be discerned; average demand is not influenced by size but also indicates the

overall demand in an SMSA, as it ignores -- in a sense, controls -- the within SMSA variation in demand for art.) This analysis is based on 125 cases -- the SMSAs.

The specific regression procedure used employs forward, enter, and backward commands. The first forward command is used to let the computer select one of two forms of inequality, or both, inequality in socioeconomic status and educational inequality.[2] The next forward command specifies median education and median income in the SMSA, since either has a strong negative relation with the two inequality variables.[3] Then the prevalence of the type of art institution related to the dependent variable is force-entered, to ascertain whether the opportunities provided by this institutional supply mediates the influence of inequality on demand.[4] Another forward command lets SMSA size enter if it meets the criteria. (Both supply variables and SMSA size are logarithmically transformed [ln] because they are highly skewed.) The final method used is backward, to eliminate any insignificant coefficients.[5] WLS regression is employed since the SMSA measures are based on greatly varying numbers of persons, depending on the SMSA's size.

The second set of regressions examines influences on whether or not a respondent has attended a certain art event in the past 12 months. (Unfortunately, the wording of the questionnaire yields dichotomous dependent variables.) We start with the results of the first set of regressions, entering the form or forms of inequality that were there observed to influence average demand per capita. Then the nine individual variables are entered, to ascertain whether controlling them nullifies the influence of inequality.[6] Next, the pertinent art institution is entered to ascertain whether this procedure -- regressing individual's art participation on individual as well as SMSA influences -- reveals that institutional art supply mediates the influence of inequality on art demand. Finally, a backward command is given.[7] OLS is employed in these regressions, which are based on several thousands of cases

except for the contextual (SMSA) variables which are derived from previous WLS regressions.

14.2 SOCIAL INEQUALITY AND DEMAND FOR ART IN A METROPOLIS

The first questions raised are whether social inequality affects the average demand for seven forms of art in a large metropolis and whether it does so independent of its influence on the institutions that supply art or largely because it affects these cultural institutions. Since social inequalities exhibit substantial inverse correlations with median education and income in a place, these medians are controlled in the analysis to ascertain whether any apparent influences of inequality are not essentially produced by influences (in the opposite direction) of median status. Besides, since population size is strongly related to the number of cultural institutions of various kinds in an SMSA, size is also controlled.

Table 18 shows that social inequalities exert considerable influence on all seven forms of art, though not all seven are influenced by the same aspect of inequality. Neither educational or income median nor population size exert any significant influence (using the regression procedures and criteria described above). Attending classical concerts and jazz sessions is more prevalent the less the educational inequality, and once educational inequality is controlled socioeconomic inequality exerts no influence on participation in these two forms of cultural activity. On the other hand going to musicals, other plays, and ballets is less likely the greater the socioeconomic inequality in a metropolis, and educational inequality exerts no independent influence on them. Visiting galleries and reading novels, finally, are influenced by both educational and socioeconomic inequality. Many institutions performing classical and jazz music and many new productions in theaters increase the opportunities for participating in these cultural activities and make attendance at classical and jazz concerts, musical comedies and other plays more frequent in a metropolis, as indicated in

Table 18. Regression of Art Attendance Per Capita in 125 SMSA's

	Classical Music		Jazz		Musicals		Plays		Ballet		Art Galleries		Reading	
	b	Beta	b	Beta	b	Beta	b	Beta	b	Beta	b	Beta	b	Beta
Educational Inequality	-1.24	-.37	-.97	-.35	*	*	*	*	*	*	-1.23	-.27	-1.35	-.27
SEI Inequality	*	*	*	*	-1.48	-.30	-1.23	-.30	-.82	-.34	-2.24	-.39	-1.48	-.23
Art Institutions	.02	.34	.01	.21	.01	.31	.01	.27	*	*	*	*		
	R^2 = .24		R^2 = .12		R^2 = .27		R^2 = .23		R^2 = .11		R^2 = .26		R^2 = .14	

*Not significant on .05 level

columns 5 and 6 of Table 13.1. Whereas the number of ballet companies and that of museums does not seem to affect going to ballet performances and museums, respectively, we shall presently see that this conclusion is not warranted.

These findings might be interpreted in terms of Bourdieu's (1984) distinction between economic resources, on the one hand, and academic and educational capital, on the other. He emphasizes that the latter -- often referred to as human capital -- is hardly less important for sustaining class boundaries than the former. Both influence cultural activities, but not always the same ones. Symphonies and chamber music are probably the most esoteric art forms and jazz nowadays, when rock is the dominant kind of popular music, is probably most likely to appeal to the cultural cognoscenti. Little educational inequality is particularly important for appreciating these two art forms, because it implies the existence of a relatively large middle class with superior education and refined cultural tastes. Going to musical comedies, in contrast, is not indicative of a preference for esoteric high-brow art, and other plays and ballets have also become increasingly popular with broad audiences; but attending these events frequently is costly, which may be the reason that low socioeconomic inequality, which entails a large middle class who are fairly affluent, influences attendance at these performances most. Why the least expensive art forms -- going to museums or galleries and reading fiction -- are influenced by both forms of inequality is not entirely clear.

Cultural institutions that provide greater opportunities for involvement in the arts influence such involvement in four of six art forms -- classical and jazz concerts, musical and other plays (there is no appropriate measure available of institutions that increase opportunities for reading novels), as already mentioned. But their influence does not appear to mediate and neutralize the adverse effects of social inequality on participating in these art activities. This conclusion will have to be qualified, however, once the influences of individual characteristics on art participation are controlled.

Whereas the proportion of the variation in average demand for various arts explained by inequality and institutional supply is not very large, it is appreciable, ranging from a little more than one tenth for ballets to more than one quarter for musicals.

14.3 CONTEXTUAL AND INDIVIDUAL INFLUENCES ON ART INTEREST

The analysis now turns to the influences on whether an individual has attended an art event (or otherwise consumed art products) in the past year, as distinguished from the influences on the average demand for art (per capita) in a metropolis, which was analyzed in the preceding pages. In other words, we now take into account the variations in art participation among the sampled individuals within every metropolis, whereas in the preceding analysis these variations were not examined, only those among SMSAs were. Naturally, we cannot expect to explain as much of the differences in artistic demands of all people as we could of the average differences among residents of the various metropolitan places. In short, the coefficients of determination (R^2) in the following analysis will necessarily be less than those in Table 18.

The primary influences on an individual's tendency to enjoy art and to attend certain kinds of art events are undoubtedly his or her own characteristics and resources. We shall only briefly summarize these individual influences, since they have already been discussed earlier in this report and since we are now primarily interested in ascertaining whether controlling them nullifies the previously noted influences of social inequality in a metropolis and of institutions that supply opportunities to enjoy art.

All eight attributes of individuals on which we have information influence participation in all, or nearly all, seven types of art about which respondents were questioned, as Table 19 indicates. Let us start with the major influences on artistic interests, those individual attributes that are related to most of the seven art forms considerably (arbitrarily defined as indicated by a beta of

Table 19. Regression of Art Attendance of Individuals in 125 SMSA's

	Classical Music		Jazz		Musicals		Plays		Ballet		Art Galleries		Reading	
	b	Beta	b	Beta	b	Beta	b	Beta	b	Beta	b	Beta	b	Beta
Urban Characteristics														
Educational Inequality	-.67	-.03	-.78	-.04							-.86	-.04	*	*
SEI Inequality					*	*	*	*	*	*	-.90	-.03	*	*
Individual Characteristics														
Female**	.04	.05	*	*	.05	.06	.03	.05	.04	.09	.03	.04	.14	.14
Black**	-.04	-.03	.08	.08	-.05	-.04	-.02	-.02	-.02	-.03	-.06	-.05	-.05	-.03
Never Married**	.09	.10	.08	.10	.06	.06	.06	.07	.06	.11	.07	.07	.04	.04
Divorced**	.06	.05	.08	.07	.04	.03	.05	.05	.02	.03	.06	.04	.04	.02
Age	.01	.31	-.004	-.22	.005	.20	.002	.09	.003	.28	.004	.16	-.003	.12
Years Over 35	-.01	-.20	.003	.13	-.004	-.15	*	*	-.004	-.23	-.005	-.16	-.003	-.12
Ln. Income	.08	.06	*	*	.22	.13	.15	.11	.04	.04	.10	.06	.14	.07
Education	.03	.25	.02	.15	.03	.20	.02	.22	.01	.14	.04	.28	.05	.31
White Collar**	.04	.05	.02	.03	.08	.10	.04	.06	.01	.03	.05	.06	.08	.08
Specific Art Institution	.03	.03	.01	.02	.01	.06	.01	.06	.01	.04	.02	.03		
	R^2 = .11		R^2 = .08		R^2 = .12		R^2 = .10		R^2 = .05		R^2 = .14		R^2 = .17	

* Not significant on .05 level
**Dichotomous variable

more than .10). Education exerts the most pervasive influence; all seven of its standardized coefficients are greater than .1, ranging from .14 for attending ballets to .31 for reading novels. Thus, superior education exerts apparently the major influence on interest in various arts.

Age has a considerable influence on six of the seven art forms. This variable must be interpreted together with another, "years over 35," since the the combination of both variables indicates the influence of age and how it changes in about the fourth decade. (As noted above, when both are in the equation the sum of their unstandardized regression coefficients indicates the slope after age 35 and the coefficient of age indicates the slope between 18 and 35.) All six relationships are curvilinear, but the curves have different shapes. In four cases -- classical music, jazz, ballets, and museums or galleries -- attendance increases with age up to the thirties and then remains fairly constant. (In the case of museums and galleries, it even declines a bit; it may also decline for old people, which would not be evident in the average slope for all over 35.) For jazz and for reading, however, interest declines with age up to 35 and after that remains constant. Age has only a weak influence on going to plays which is linear (as indicated by the fact that the variable "years over 35" does not reach the criterion of .05 significance); that is, the likelihood of going to straight plays exhibits a slight linear increase with age.

The other influences of background are weaker, though most extend to all forms of art. Being single makes participation in all seven forms of art more likely, but only three of these influences are considerable. Never-married persons are between 9 and 6 percent more probably to have attended a classical concert, a jazz performance, and a ballet than those who are or were married (as indicated by the value of the unstandardized regression coefficients of "never married" in these three equations). Income exerts less influence on art attendance than one would expect. It does make going to musicals and other plays considerably more likely, but it exerts no significant influence on attending

jazz concerts and it only weakly influences partaking of the four other forms of art.

Women are more likely to be involved in six of the seven art forms -- all but jazz -- yet only one of the six influences is appreciable -- their probability of having read a novel recently is 14 percent higher than that of men. Being divorced positively influences consumption of all seven types of art, though all influences are quite weak. Having a white-collar occupation is also weakly related to all seven kinds of art participation, though it should be noted that the corresponding correlations are much higher and the weak coefficients in the regression analyses are owing to the fact that several major correlates of white collar, such as education, income, and race, are controlled. Finally race is also weakly related to involvement in all types of art, but not all influences are in the same direction. Blacks are more likely than others to go to hear jazz bands but less likely to participate in the six other art forms.

The adverse effect of social inequality on the average demand for the seven forms of art shown in Table 18 is also manifest in a parallel adverse effect on the tendencies of individuals to attend art events in six of the seven cases even when the influences of eight characteristics of individuals on their art participation is controlled. (This cannot be seen in Table 19, for reasons that will become presently evident.) In other words, when the same form or forms of inequality that influence the average demand for art in a metropolis are entered into the analysis of the variation in art consumption among persons within as well as among SMSAs and numerous individual influences on this consumption are simultaneously controlled, these forms of inequality have a detrimental effect on the likelihood of individuals to attend most types of art events.[8]

However, when the prevalence of the type of art institution that supplies opportunities to enjoy the given form of art that is the dependent variable is introduced into the regression, an interesting pattern occurs (compare first two rows and last row in Table 19 with Table 18). Whenever <u>educational</u> inequality is the

significant form of inequality that alone affects the average demand for art in a metropolis, it continues to influence the likelihood of individuals to attend art events independent of the number of institutions that supply the art form under consideration. But whenever socioeconomic inequality affects the average demand for art in a metropolis, its influence on individual tendencies to attend art events is mediated by the institutional opportunities for this type of art and is reduced to insignificance once these opportunities are controlled. If both types of inequality affect the overall demand for art, both continue to exert an influence if institutional opportunities (museums) are controlled but no longer do so if no measure of institutional opportunities is available (reading). To be interested in an esoteric art, like Gregorian chants or atonal music or, indeed, most classical music, or like jazz in an age when rock is the popular musical entertainment, depends on much devotion, considerable sophistication, and usually extensive education to appreciate subtle nuances and fine distinctions. Low educational inequality, which implies a large proportion of the population with relatively high levels of education, is likely to produce a large pool of knowledgeable and devoted musicians, some of whom are apt to become highly specialized musical aficionados. In contrast, a population with much educational inequality, which implies large masses with minimal education, produced a smaller pool of potential musical experts. Persons who have intensively studied an art and may well even practice it themselves tend to become strongly interested in it -- devotees who are likely to seek out occasions to attend art events notwithstanding rare opportunities.

Going to the theater or even to popular ballets, such as "The Nutcracker Suite," in contrast, is not so much considered an aesthetic experience, one that requires specialized training (a "trained ear"), profound understanding, and great devotion, as an enjoyable entertainment - an evening of having fun. Hence, attendance at these art events depends more on available opportunities than deep devotion. But the art institutions providing such opportunities depend on a

fairly large middle class, which implies low socioeconomic inequality, who serve as patrons, angels, sponsors, or at least subscribers. This may be a reason for the finding that the negative influence of socioeconomic inequality on the attendance of these art events is indirect, mediated by its negative influence on the prevalence of art institutions that provide opportunities for attendance.

Appreciation of paintings and sculpture requires much education in aesthetics, which in turn depends on a large pool of well-educated persons and thus low educational inequality. But viewing pictures and sculptures in public museums is not only enjoyed by experts but by increasing proportions of the middle class, since some knowledge of the visual arts has become an important symbol of being a member of the middle class. The special interest in the visual arts of aesthetic experts and the general interest in them of the middle class may help explain, though this is mere speculation, why both educational and economic inequality have adverse effects on visiting museums or galleries. The variables indicating relevant institutional supply, which did not have a significant influence on ballets and museums in Table 18, are seen to have one when individual influences are controlled, as Table 19 reveals.

In closing, let us recapitulate the main results of the influence of metropolitan conditions on the supply of and demand for art. Social inequality has detrimental effects on both the institutional supply of various forms of art and the demand for these various art forms, as indicated by people's actually attending such art events. Whereas the prevalence of art institutions is primarily influenced by low socioeconomic inequality, interest in the arts, as indicated by reported participation, is influenced by educational inequality in some cases, by socioeconomic inequality in others, and by both in the case of visual arts. These influences persist if the influences of the characteristics of individuals on their interest in art are controlled.

1. The measure for various forms of inequality is the Gini coefficient, based on the distributions of years of education, income, and SEI, respectively. In our original research with 1970 data, SEI was computed for detailed occupations. Our budget did not permit us to do this again for 500 detailed occupations in 125 SMSAs for 1980 (the year to which all SMSA variables refer). Hence, 1980 socioeconomic inequality is based on the distribution of the labor force among major occupations (see P.M. Blau et al., 1986).

2. Considerable exploratory analysis had been carried out before the final runs were made, and income inequality was eliminated as the result of this exploratory analysis.

3. SEI inequality is correlated -.70 with median education and -.37 with median income; educational inequality is correlated -.62 with median education and -.50 with median income. Median education is used as a substitute for a measure of median SEI, which is not available.

4. The institutional supply variables for the seven regressions are: for classical music, number of chamber music groups, contemporary ensembles, and operas in the metropolis; for jazz, the number of orchestras there; for musicals, the number of new productions in two seasons; for plays, also the number of new productions in two seasons; for ballets, the number of ballet companies; for museums and galleries, the number of art museums; for reading, none.

5. The criteria are: PIN (.025), POUT (.05), Tolerance (.25). This means that any independent variable not eliminated by the backward command meets the .05 level of significance.

6. The nine are: female, black, never married, divorced age, years over 35, income (ln), education, white collar. The reason for the two age variables is to be able to take into account the curvilinear relationship of age and art

participation that has often been observed. The coefficient for "years over 35" indicates the change in slope from that of age; it does not indicate the slope for those older than 35, which is indicated by the sum of the (unstandardized) regression coefficients for the two age variables, whereas the slope of age (if both variables are in the equation) refers only to those younger than 35.

7. In both sets of regressions[8] pairwise deletion is used. No tolerance criterion is specified for the regressions in Table 13.2. The reason is that "age" and "years over 35" are necessarily collinear, so that both would not enter with a tolerance of .25 or even .10. Actually, the tolerance for all variables except these two in all seven regressions is at least .60.

8. Before the institutional supply variables are entered into the seven regressions in Table 13.2 (that is, with only all significant inequality and individual variables in the equations) educational inequality has a regression coefficient significant on at least the .02 levels in the regressions for class, jazz, and museums and galleries; and SEI inequality has a coefficient significant on at least the .002 level in the regressions for musicals, other plays, ballets, and museums and galleries.

XV. SUMMARY

1. In no region did arts participation exhibit a significant increase between 1982 and 1985.

2. The greatest variation for arts participation within regions is exhibited in the South. The West has higher rates generally, while the South has low rates generally. Similar patterns are observed for recreational and leisure activities.

3. No consistent pattern of increase is observed for any region between 1982 and 1985 for recreational leisure, art-related leisure, and television watching.

4. When demographic characteristics of regions are taken into account regional differences in arts participation are reduced. The higher mean educational levels in the West are responsible, in part, for high levels of participation in that region, and low levels of income in the South help to account for its relatively low rates of participation.

5. Particular metropolitan areas have especially high rates of participation even when controlling for known individual characteristics. Differences in supply, taste cultures, and, possibly, planning policies are likely to account for the high rates observed for these areas.

6. Interest in attending more cultural events is highest in particular Northeastern and Midwestern SMSAs and in Western rural and non-SMSA places.

7. Particular cities exhibit low participation rates that can be related to poor transportation and parking facilities while many rural areas have severe shortages of cultural opportunities.

8. Only in SMSAs and suburban areas does much education increase the likelihood of watching little television and participating in the arts. In rural areas education only increases arts participation and has no net effect on watching television. While television and arts participation are negatively related for the non-rural groups, this can be explained by education.

9. Life style is so important in understanding arts participation that, according to models that give arts-related leisure causal priority, no factor, except education, has independent effects on art participation. Recreational leisure plays a less important role in influencing art participation than does arts-related leisure in the models for metropolitan, suburban, and rural residents.

10. Independent of individual characteristics, the mean education of the residents of a community and the proportion never married promote individual art participation. Specific location level effects are observed for SMSAs, suburban areas, and rural areas. The main conclusions for 1982 are replicated for 1985.

11. Social inequality has detrimental effects on the institutional supply of art and the demand for it. These influences persist when individual characteristics are controlled.

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APPENDIX A. Large Cities Defined as Geographical Areas*

I. CITIES

NEW YORK CITY (COMBINED) consists of:
1. New York City
2. New York City Suburbs

NEW YORK CITY consists of the following counties (boroughs):
1. Bronx (Bronx)
2. Kings (Brooklyn)
3. New York (Manhattan)
4. Queens (Queens)
5. Richmond (Staten Island)

NEW YORK CITY SUBURBS consists of the following counties:
New York:
1. Nassau
2. Rockland
3. Suffolk
4. Westchester
New Jersey:
5. Bergen
6. Essex
7. Hudson
8. Middlesex
9. Monmouth
10. Morris
11. Passaic
12. Somerset
13. Union
Connecticut:
14. Fairfield (part) only includes:
    (a) Bridgeport city
    (b) Darien town
    (c) Easton town
    (d) Fairfield town
    (e) Greenwich town
    (f) Monroe town
    (g) New Canaan town
    (h) Norwalk city
    (i) Shelton city
    (j) Stamford city
    (k) Stratford town
    (l) Trumbull town
    (m) Westport town
    (n) Wilton town
15. New Haven (part) only includes:
    (a) Milford city

*Source: Horowitz et al. (1986)

LOS ANGELES consists of the following counties:

1. Los Angeles
2. Orange
3. Riverside
4. San Bernardino
5. Ventura

CHICAGO consists of the following counties:

Illinois:

1. Cook
2. Dupage
3. Kane
4. Lake
5. McHenry
6. Will

Indiana:

7. Lake
8. Porter

PHILADELPHIA consists of the following counties:

Pennsylvania:

1. Bucks
2. Chester
3. Delaware
4. Montgomery
5. Philadelphia

New Jersey:

6. Burlington
7. Camden
8. Gloucester

SAN FRANCISCO BAY AREA consists of the following counties:

1. Alameda
2. Contra Costa
3. Marin
4. Napa
5. San Francisco
6. San Mateo
7. Santa Clara
8. Solano

DETROIT consists of the following counties:

1. Macomb
2. Monroe
3. Oakland
4. Wayne

BOSTON consists of the following counties:

1. Bristol
2. Essex
3. Middlesex
4. Norfolk
5. Plymouth
6. Suffolk
7. Worcester (part) - whole county except Warren town
8. Hampden (part) only includes:
   (a) Brimfield town
   (b) Holland town
   (c) Wales town

BALTIMORE-WASHINGTON consists of the following counties and cities:

Maryland:

1. Anne Arundel
2. Baltimore (city)
3. Baltimore (county)
4. Carroll
5. Harford
6. Howard
7. Montgomery
8. Prince Georges

Virginia:

9. Alexandria (city)
10. Arlington
11. Fairfax (city)
12. Fairfax (county)
13. Falls Church (city)
14. Loudon
15. Prince William

Washington, D.C.

16. District of Columbia (city)

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12 JAN 87   SPSS-X RELEASE 2.2  FOR IBM VM/CMS                                PAGE   1
16:11:05    COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

FOR VM/SP CMS           COLUMBIA UNIVERSITY - CUCCA          LICENSE NUMBER 323

USE INFO OVERVIEW FOR MORE INFORMATION ON:

* INCLUDE - TO BRING IN COMMAND FILES              * IMPROVEMENTS IN:
* RENAME VARS - TO RENAME VARIABLES                *   MANOVA
* AUTORECODE - TO RECODE STRINGS AS NUMBERS        *   TABLES
* RELINKING USERCODE                               *

   1  0  FILE HANDLE LAS82/NAME='LAS82 SPSSXFIL F'
   2  0  GET FILE=LAS82

FILE CALLED LAS82    :
  LABEL:
  CREATED 23 DEC 86 16:20:37      439 VARIABLES


   3  0  SELECT IF (VERSION EQ 6)
   4  0  COMPUTE WT=RND(LASPWT/12000)
   5  0  WEIGHT BY WT
   6  0  MISSING VALUES JAZZ(8) MUSIC(8) OPERA(8) MUSICAL(8) PLAY(8)
   7  0                   BALLET(8) ART(8) READ(8) POP(99) MARITAL(8)
   8  0                   INFANTS(9) CHILDREN(9) EMPLOYD(9) WORKHRS(998)
   9  0                   EDUC(98) INCOME(98) GOMOVIE TO PLANTS(8,9)
  10  0                   TVHOURS (88,99)
  11  0  RECODE JAZZ (0=0)
  12  0                 (ELSE=1)
  13  0  RECODE MUSIC (0=0)
  14  0                  (ELSE=1)
  15  0  RECODE OPERA (0=0)
  16  0                 (ELSE=1)
  17  0  RECODE MUSICAL (0=0)
  18  0                   (ELSE=1)
  19  0  RECODE PLAY (0=0)
  20  0                 (ELSE=1)
  21  0  RECODE BALLET (0=0)
  22  0                  (ELSE=1)
  23  0  RECODE ART (0=0)
  24  0                 (ELSE=1)
  25  0  COMPUTE ALLART=SUM(JAZZ,MUSIC,OPERA,MUSICAL,PLAY,BALLET,ART)
  26  0  RECODE ALLART (0=0)
  27  0                  (1 THRU HI=1)
  28  0  RECODE SEX (1=0)
  29  0               (2=1)
  30  0  COMPUTE KIDS=SUM(INFANTS,CHILDREN)
  31  0  RECODE KIDS (0=0)
  32  0                 (ELSE=1)
  33  0  COMPUTE CENCITY=0
  34  0  IF (SMSA=1) CENCITY=1
  35  0  COMPUTE ONLYSMSA=0
  36  0  IF (SMSA=2) ONLYSMSA=1
  37  0  COMPUTE NOTSMSA=0
  38  0  IF (SMSA=3) NOTSMSA=1
```

SPSS-X RELEASE 2.2 FOR IBM VM/CMS
COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/ CMS

```
  39   0  RECODE RACE (1=1)
  40   0               (2,3=0)
  41   0  COMPUTE MARRIED=0
  42   0  IF (MARITAL=1) MARRIED=1
  43   0  COMPUTE APART=0
  44   0  IF (MARITAL=2) APART=1
  45   0  IF (MARITAL=3) APART=1
  46   0  IF (MARITAL=4) APART=1
  47   0  COMPUTE NEVMARRY=0
  48   0  IF (MARITAL=5) NEVMARRY=1
  49   0  RECODE EMPLOYD (1=1)
  50   0                  (ELSE=0)
  51   0  TEMPORARY
  52   0  SELECT IF (CENCITY EQ 1)
  53   0  REGRESSION DESCRIPTIVES/
  54   0      MISSING=PAIRWISE/
  55   0      VARS=(COLLECT)/
  56   0      STATISTICS=DEFAULTS ZPP TOL/
  57   0           DEP=TVHOURS/
  58   0              ENTER AGE WORKHRS EDUC/
  59   0           DEP=ALLART/
  60   0              ENTER EDUC TVHOURS/

THERE ARE   952248 BYTES OF MEMORY AVAILABLE.
THE LARGEST CONTIGUOUS AREA HAS   941968 BYTES.

     5872 BYTES OF MEMORY REQUIRED FOR REGRESSION PROCEDURE.
        0 MORE BYTES MAY BE NEEDED FOR RESIDUALS PLOTS.
```

**** MULTIPLE REGRESSION ***

PAIRWISE DELETION OF MISSING DATA

	MEAN	STD DEV	CASES	LABEL
TVHOURS	2.779	2.221	4060	N OF HRS OF TV WATCHED PER DAY
AGE	40.920	18.170	4087	AGE LAST BIRTHDAY
WORKHRS	22.248	21.103	3978	WORK TIME LAST WEEK
EDUC	16.073	6.869	4087	HIGHEST GRADE ATTENDED
ALLART	.482	.500	4087	

MINIMUM PAIRWISE N OF CASES = 3951

CORRELATION:

	TVHOURS	AGE	WORKHRS	EDUC	ALLART
TVHOURS	1.000	-.052	-.169	-.273	-.137
AGE	-.052	1.000	-.281	-.274	-.179
WORKHRS	-.169	-.281	1.000	.202	.147
EDUC	-.273	-.274	.202	1.000	.452
ALLART	-.137	-.179	.147	.452	1.000

12 J SPSS-X RELEASE 2.2 FOR IBM VM/CMS
16:14:54 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 1 DEPENDENT VARIABLE.. TVHOURS N OF HRS OF TV WATCHED PER

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 3

BEGINNING BLOCK NUMBER 1. METHOD: ENTER AGE WORKHRS EDUC

VARIABLE(S) ENTERED ON STEP NUMBER 1.. EDUC HIGHEST GRADE ATTENDED
2.. WORKHRS WORK TIME LAST WEEK
3.. AGE AGE LAST BIRTHDAY

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE
MULTIPLE R	.33926				
R SQUARE	.11510				
ADJUSTED R SQUARE	.11442	REGRESSION	3	2243.11820	747.70607
STANDARD ERROR	2.09030	RESIDUAL	3947	17245.90391	4.36937

F = 171.12445 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	-.093479	.005081	-.289088	-.273164	-.275463	-.281028	.907958	-18.397	.0000
WORKHRS	-.016820	.001657	-.159800	-.168834	-.151967	-.159481	.904367	-10.149	.0000
AGE	-.021515	.001960	-.175994	-.051981	-.164355	-.172110	.872106	-10.977	.0000
(CONSTANT)	5.536145	.138538						39.961	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 2 DEPENDENT VARIABLE.. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 3

BEGINNING BLOCK NUMBER 1. METHOD: ENTER EDUC TVHOURS

VARIABLE(S) ENTERED ON STEP NUMBER 1.. EDUC HIGHEST GRADE ATTENDED
2.. TVHOURS N OF HRS OF TV WATCHED PER DAY

MULTIPLE R	.45254
R SQUARE	.20479
ADJUSTED R SQUARE	.20440
STANDARD ERROR	.44575

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	2	207.59138	103.79569
RESIDUAL	4057	806.09389	.19869

F = 522.39462 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	.032610	.001059	.448247	.452310	.431199	.435323	.925382	30.799	.0000
TVHOURS	-.003346	.003274	-.014872	-.137317	-.014306	-.016041	.925382	-1.022	.3069
(CONSTANT)	-.032820	.022493						-1.459	.1446

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

PRECEDING TASK REQUIRED 66.53 SECONDS CPU TIME; 225.17 SECONDS ELAPSED.

```
  61  0  TEMPORARY
  62  0  SELECT IF (NOTSMSA EQ 1)
  63  0  REGRESSION DESCRIPTIVES/
  64  0       MISSING=PAIRWISE/
  65  0       VARS=(COLLECT)/
  66  0       STATISTICS=DEFAULTS ZPP TOL/
  67  0            DEP=TVHOURS/
  68  0               ENTER AGE WORKHRS/
  69  0               ENTER EDUC/
  70  0           DEP=ALLART/
  71  0               ENTER EDUC NEVMARRY TVHOURS/
  72  0               ENTER AGE/
  73  0               ENTER WORKHRS/
```

THERE ARE 959784 BYTES OF MEMORY AVAILABLE.
THE LARGEST CONTIGUOUS AREA HAS 939672 BYTES.

6456 BYTES OF MEMORY REQUIRED FOR REGRESSION PROCEDURE.
0 MORE BYTES MAY BE NEEDED FOR RESIDUALS PLOTS.

* * * * M U L T I P L E R E G R E S S I O N * * *

PAIRWISE DELETION OF MISSING DATA

	MEAN	STD DEV	CASES	LABEL
TVHOURS	2.856	2.296	3948	N OF HRS OF TV WATCHED PER DAY
AGE	44.893	18.560	3958	AGE LAST BIRTHDAY
WORKHRS	21.983	22.017	3826	WORK TIME LAST WEEK
EDUC	13.639	6.176	3958	HIGHEST GRADE ATTENDED
ALLART	.230	.421	3958	
NEVMARRY	.152	.359	3958	

MINIMUM PAIRWISE N OF CASES = 3816

CORRELATION:

	TVHOURS	AGE	WORKHRS	EDUC	ALLART	NEVMARRY
TVHOURS	1.000	-.089	-.208	-.014	-.035	.078
AGE	-.089	1.000	-.301	-.285	-.112	-.410
WORKHRS	-.208	-.301	1.000	.163	.065	-.003
EDUC	-.014	-.285	.163	1.000	.389	.119
ALLART	-.035	-.112	.065	.389	1.000	.185
NEVMARRY	.078	-.410	-.003	.119	.185	1.000

12 JA SPSS-X RELEASE 2.2 FOR IBM VM/CMS
16:15:21 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

* * * * MULTIPLE REGRESSION * * * *

EQUATION NUMBER 1 DEPENDENT VARIABLE.. TVHOURS N OF HRS OF TV WATCHED PER

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 7

BEGINNING BLOCK NUMBER 1 METHOD: ENTER AGE WORKHRS

VARIABLE(S) ENTERED ON STEP NUMBER 1.. WORKHRS WORK TIME LAST WEEK
2.. AGE AGE LAST BIRTHDAY

MULTIPLE R	.26190	ANALYSIS OF VARIANCE			
R SQUARE	.06859		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.06810	REGRESSION	2	1379.35874	689.67937
STANDARD ERROR	2.21633	RESIDUAL	3813	18729.85100	4.91210

F = 140.40408 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
WORKHRS	-.026957	.001709	-.258517	-.208346	-.246492	-.247464	.909136	-15.771	.0000
AGE	-.020589	.002028	-.166441	-.088515	-.158699	-.162260	.909136	-10.154	.0000
(CONSTANT)	4.372749	.114222						38.283	.0000

---------- VARIABLES NOT IN THE EQUATION ----------

VARIABLE	BETA IN	PARTIAL	TOLERANCE	MIN TOLER	T	SIG T
EDUC	-.021622	-.021397	.912164	.851900	-1.321	.1864

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
16:15:21 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 1 DEPENDENT VARIABLE.. TVHOURS N OF HRS OF TV WATCHED PER

BEGINNING BLOCK NUMBER 2 METHOD: ENTER EDUC

VARIABLE(S) ENTERED ON STEP NUMBER 3.. EDUC HIGHEST GRADE ATTENDED

MULTIPLE R	.26272
R SQUARE	.06902
ADJUSTED R SQUARE	.06829
STANDARD ERROR	2.21611

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	3	1387.93416	462.64472
RESIDUAL	3812	18721.27558	4.91114

F = 94.20307 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
WORKHRS	-.026766	.001715	-.256686	-.208346	-.243877	-.245049	.902685	-15.605	.0000
AGE	-.021283	.002094	-.172055	-.088515	-.158804	-.162401	.851900	-10.162	.0000
EDUC	-.008038	.006083	-.021622	-.014384	-.020650	-.021397	.912164	-1.321	.1864
(CONSTANT)	4.509360	.154052						29.272	.0000

END BLOCK NUMBER 2 ALL REQUESTED VARIABLES ENTERED.

12 J[redacted] SPSS-X RELEASE 2.2 FOR IBM VM/CMS
16:15:[redacted] COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/S[redacted]CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 2 DEPENDENT VARIABLE.. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 7

BEGINNING BLOCK NUMBER 1. METHOD: ENTER EDUC NEVMARRY TVHOURS

VARIABLE(S) ENTERED ON STEP NUMBER 1.. NEVMARRY
2.. TVHOURS N OF HRS OF TV WATCHED PER DAY
3.. EDUC HIGHEST GRADE ATTENDED

MULTIPLE R	.41496
R SQUARE	.17219
ADJUSTED R SQUARE	.17154
STANDARD ERROR	.38319

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	3	116.42743	38.80914
RESIDUAL	3812	559.72332	.14683

F = 264.30997 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
NEVMARRY	.168398	.017452	.143665	.184585	.142191	.154407	.979580	9.649	.0000
TVHOURS	-.007534	.002711	-.041087	-.035278	-.040951	-.044964	.993416	-2.779	.0055
EDUC	.025294	.001012	.371036	.388705	.368300	.375221	.985308	24.993	.0000
(CONSTANT)	-.118908	.017000						-6.995	.0000

---------- VARIABLES NOT IN THE EQUATION ----------

VARIABLE	BETA IN	PARTIAL	TOLERANCE	MIN TOLER	T	SIG T
AGE	.063592	.061380	.771219	.771219	3.796	.0001
WORKHRS	-.004023	-.004267	.930966	.930966	-.263	.7923

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
16:15:21 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 2 DEPENDENT VARIABLE.. ALLART

BEGINNING BLOCK NUMBER 2 METHOD: ENTER AGE

VARIABLE(S) ENTERED ON STEP NUMBER 4 AGE AGE LAST BIRTHDAY

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE
MULTIPLE R	.41870				
R SQUARE	.17531				
ADJUSTED R SQUARE	.17444	REGRESSION	4	118.53621	29.63405
STANDARD ERROR	.38251	RESIDUAL	3811	557.61454	.14632

F = 202.53304 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
NEVMARRY	.196465	.018926	.167610	.184585	.152709	.165830	.830093	10.381	.0000
TVHOURS	-.006802	.002713	-.037095	-.035278	-.036879	-.040576	.988399	-2.507	.0122
EDUC	.026340	.001047	.386381	.388705	.370016	.377332	.917086	25.153	.0000
AGE	.001442	3.7995E-04	.063592	-.112040	.055846	.061380	.771219	3.796	.0001
(CONSTANT)	-.204289	.028174						-7.251	.0000

---------- VARIABLES NOT IN THE EQUATION ----------

VARIABLE	BETA IN	PARTIAL	TOLERANCE	MIN TOLER	T	SIG T
WORKHRS	.016622	.016695	.831936	.689182	1.031	.3028

END BLOCK NUMBER 2 ALL REQUESTED VARIABLES ENTERED.

12 JA SPSS-X RELEASE 2.2 FOR IBM VM/CMS
16:15:22 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

* * * * MULTIPLE REGRESSION * * * *

EQUATION NUMBER 2 DEPENDENT VARIABLE.. ALLART

BEGINNING BLOCK NUMBER 3 METHOD ENTER WORKHRS

VARIABLE(S) ENTERED ON STEP NUMBER 5 WORKHRS WORK TIME LAST WEEK

MULTIPLE R	.41898
R SQUARE	.17554
ADJUSTED R SQUARE	.17446
STANDARD ERROR	.38251

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	5	118.69163	23.73833
RESIDUAL	3810	557.45912	.14631

F = 162.24153 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
NEVMARRY	.199216	.019113	.169957	.184585	.153329	.166508	.813908	10.423	.0000
TVHOURS	-.006107	.002796	-.033304	-.035278	-.032132	-.035366	.930885	-2.184	.0290
EDUC	.026255	.001050	.385147	.388705	.367718	.375364	.911544	24.997	.0000
AGE	.001578	4.0192E-04	.069549	-.112040	.057737	.063459	.689182	3.925	.0001
WORKHRS	3.17837E-04	3.0838E-04	.016622	.064830	.015161	.016695	.831936	1.031	.3028
(CONSTANT)	-.218597	.031409						-6.960	.0000

END BLOCK NUMBER 3 ALL REQUESTED VARIABLES ENTERED.

```
12 JAN 87    SPSS-X RELEASE 2 2  FOR IBM VM/CMS
16:15:22     COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

PRECEDING TASK REQUIRED        3.61 SECONDS CPU TIME;        26.79 SECONDS ELAPSED.

  74  0  TEMPORARY
  75  0  SELECT IF (ONLYSMSA EQ 1)
  76  0  REGRESSION DESCRIPTIVES/
  77  0       MISSING=PAIRWISE/
  78  0       VARS=(COLLECT)/
  79  0       STATISTICS=DEFAULTS ZPP TOL/
  80  0            DEP=TVHOURS/
  81  0               ENTER EDUC WORKHRS/
  82  0           DEP=ALLART/
  83  0               ENTER EDUC TVHOURS/

THERE ARE   959816 BYTES OF MEMORY AVAILABLE.
THE LARGEST CONTIGUOUS AREA HAS   949528 BYTES.

     5608 BYTES OF MEMORY REQUIRED FOR REGRESSION PROCEDURE.
        0 MORE BYTES MAY BE NEEDED FOR RESIDUALS PLOTS.
```

**** MULTIPLE REGRESSION ****

PAIRWISE DELETION OF MISSING DATA

	MEAN	STD DEV	CASES	LABEL
TVHOURS	2.840	2.318	5622	N OF HRS OF TV WATCHED PER DAY
EDUC	16.487	6.444	5644	HIGHEST GRADE ATTENDED
WORKHRS	23.867	21.955	5555	WORK TIME LAST WEEK
ALLART	.427	.495	5644	

MINIMUM PAIRWISE N OF CASES = 5533

CORRELATION

	TVHOURS	EDUC	WORKHRS	ALLART
TVHOURS	1.000	-.203	-.284	-.148
EDUC	-.203	1.000	.205	.407
WORKHRS	-.284	.205	1.000	.008
ALLART	-.148	.407	.008	1.000

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
16.15.49 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 1 DEPENDENT VARIABLE TVHOURS N OF HRS OF TV WATCHED PER

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 14

BEGINNING BLOCK NUMBER 1. METHOD: ENTER EDUC WORKHRS

VARIABLE(S) ENTERED ON STEP NUMBER 1. WORKHRS WORK TIME LAST WEEK
2. EDUC HIGHEST GRADE ATTENDED

MULTIPLE R	.31966
R SQUARE	.10218
ADJUSTED R SQUARE	.10186
STANDARD ERROR	2.19676

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	2	3037.20861	1518.60431
RESIDUAL	5530	26686.51295	4.82577

F = 314.68637 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
WORKHRS	-.026675	.001374	-.252657	-.283515	-.247313	-.252547	.958148	-19.410	.0000
EDUC	-.054263	.004683	-.150840	-.202528	-.147650	-.153967	.958148	-11.588	.0000
(CONSTANT)	4.371170	.082898						52.729	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

* * * * M U L T I P L E R E G R E S S I O N * * * *

EQUATION NUMBER 2 DEPENDENT VARIABLE ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 14

BEGINNING BLOCK NUMBER 1 METHOD: ENTER EDUC TVHOURS

VARIABLE(S) ENTERED ON STEP NUMBER 1 EDUC HIGHEST GRADE ATTENDED
2 TVHOURS N OF HRS OF TV WATCHED PER DAY

MULTIPLE R	.41282
R SQUARE	.17042
ADJUSTED R SQUARE	.17012
STANDARD ERROR	.45060

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	2	234.36646	117.18323
RESIDUAL	5619	1140.88313	.20304

F = 577.14289 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG
EDUC	.030217	9.5247E-04	.393638	.407410	.385481	.389757	.958982	31.725	.000
TVHOURS	-.014511	.002648	-.068000	-.147723	-.066591	-.072917	.958982	-5.480	.000
(CONSTANT)	-.030322	.019674						-1.541	.123

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED

```
12 JAN 87   SPSS-X RELEASE 2 2  FOR IBM VM/CMS
15 48 16    COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

FOR VM/SP CMS            COLUMBIA UNIVERSITY - CUCCA          LICENSE NUMBER 323

USE INFO OVERVIEW FOR MORE INFORMATION ON

* INCLUDE - TO BRING IN COMMAND FILES              * IMPROVEMENTS IN
* RENAME VARS - TO RENAME VARIABLES                *   MANOVA
* AUTORECODE - TO RECODE STRINGS AS NUMBERS        *   TABLES
* RELINKING USERCODE                               *

   1  0  FILE HANDLE LAS82/NAME='LAS82 SPSSXFIL F'
   2  0  GET FILE=LAS82

FILE CALLED LAS82
  LABEL
  CREATED 23 DEC 86 16 20 37      439 VARIABLES

   3  0  SELECT IF (VERSION EQ 3)
   4  0  COMPUTE WT=RND(LASPWT/12000)
   5  0  WEIGHT BY WT
   6  0  MISSING VALUES JAZZ(8) MUSIC(8) OPERA(8) MUSICAL(8) PLAY(8)
   7  0                   BALLET(8) ART(8) READ(8) POP(99) MARITAL(8)
   8  0                   INFANTS(9) CHILDREN(9) EMPLOYD(9) WORKHRS(998)
   9  0                   EDUC(98) INCOME(98) GOMOVIE TO PLANTS(8,9)
  10  0  RECODE JAZZ (0=0)
  11  0               (ELSE=1)
  12  0  RECODE MUSIC (0=0)
  13  0                (ELSE=1)
  14  0  RECODE OPERA (0=0)
  15  0                (ELSE=1)
  16  0  RECODE MUSICAL (0=0)
  17  0                 (ELSE=1)
  18  0  RECODE PLAY (0=0)
  19  0               (ELSE=1)
  20  0  RECODE BALLET (0=0)
  21  0                (ELSE=1)
  22  0  RECODE ART (0=0)
  23  0             (ELSE=1)
  24  0  COMPUTE ALLART=SUM(JAZZ,MUSIC,OPERA,MUSICAL,PLAY,BALLET,ART)
  25  0  RECODE ALLART (0=0)
  26  0                (1 THRU HI=1)
  27  0  RECODE SEX (1=0)
  28  0             (2=1)
  29  0  COMPUTE KIDS=SUM(INFANTS,CHILDREN)
  30  0  RECODE KIDS (0=0)
  31  0               (ELSE=1)
  32  0  COMPUTE CENCITY=0
  33  0  IF (SMSA=1) CENCITY=1
  34  0  COMPUTE ONLYSMSA=0
  35  0  IF (SMSA=2) ONLYSMSA=1
  36  0  COMPUTE NOTSMSA=0
  37  0  IF (SMSA=3) NOTSMSA=1
  38  0  RECODE RACE (1=1)
```

```
12 JAN 87    SPSS-X RELEASE 2.2  FOR IBM VM/CMS
15.48.22     COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

  39  0               (2,3=0)
  40  0  COMPUTE MARRIED=0
  41  0  IF (MARITAL=1) MARRIED=1
  42  0  COMPUTE APART=0
  43  0  IF (MARITAL=2) APART=1
  44  0  IF (MARITAL=3) APART=1
  45  0  IF (MARITAL=4) APART=1
  46  0  COMPUTE NEVMARRY=0
  47  0  IF (MARITAL=5) NEVMARRY=1
  48  0  RECODE EMPLOYD (1=1)
  49  0                (ELSE=0)
  50  0  COMPUTE PASSLEIS=(COMOVIE* .12)+(GOSPORTS* .07)+(ZOO* .34)+
  51  0                  (GAMES* .10)+(AMUSE* .17)+(JOG* .26)+(SPORTS* .03)+
  52  0                  (CAMPING* .19)+(BOOKS* .40)+(CHARITY* .45)+(COLLECT* .43)+
  53  0                  (MEALS* .62)+(IMPROVE* .25)+(PLANTS* .74)
  54  0  COMPUTE ACTLEIS=(COMOVIE* .67)+(GOSPORTS* .68)+(ZOO* .41)+
  55  0                  (GAMES* .67)+(AMUSE* .59)+(JOG* .57)+(SPORTS* .71)+
  56  0                  (CAMPING* .50)+(BOOKS* .40)+(CHARITY* .16)+(COLLECT* .17)+
  57  0                  (MEALS* .13)+(IMPROVE* .46)+(PLANTS*- .07)
  58  0  TEMPORARY
  59  0  SELECT IF (CENCITY EQ 1)
  60  0  REGRESSION DESCRIPTIVES/
  61  0      MISSING=PAIRWISE/
  62  0      VARS=(COLLECT)/
  63  0      STATISTICS=DEFAULTS ZPP TOL/
  64  0           DEP=PASSLEIS/
  65  0              ENTER INCOME SEX AGE RACE EDUC/
  66  0           DEP=ACTLEIS/
  67  0              ENTER INCOME AGE RACE EDUC/
  68  0              ENTER SEX WORKHRS/
  69  0           DEP=ALLART/
  70  0              ENTER EDUC PASSLEIS/
  71  0           DEP=ALLART/
  72  0              ENTER AGE WORKHRS EDUC SEX ACTLEIS/

THERE ARE   948984 BYTES OF MEMORY AVAILABLE
THE LARGEST CONTIGUOUS AREA HAS   929360 BYTES

     7776 BYTES OF MEMORY REQUIRED FOR REGRESSION PROCEDURE
        0 MORE BYTES MAY BE NEEDED FOR RESIDUALS PLOTS
```

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15 53 04 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

PAIRWISE DELETION OF MISSING DATA

	MEAN	STD DEV	CASES	LABEL
PASSLEIS	1.860	1.000	7174	
INCOME	9.904	2.893	6728	FAMILY INCOME
SEX	.544	.498	7255	SEX
AGE	42.050	18.293	7255	AGE LAST BIRTHDAY
RACE	.791	.407	7255	RACE
EDUC	15.653	6.802	7255	HIGHEST GRADE ATTENDED
ACTLEIS	3.019	1.686	7174	
WORKHRS	23.614	21.932	6959	WORK TIME LAST WEEK
ALLART	.446	.497	7255	

MINIMUM PAIRWISE N OF CASES = 6489

CORRELATION

	PASSLEIS	INCOME	SEX	AGE	RACE	EDUC	ACTLEIS	WORKHRS	ALLAR
PASSLEIS	1.000	.307	.095	-.290	.230	.415	.758	.174	.51
INCOME	.307	1.000	-.083	-.145	.229	.270	.280	.337	.23
SEX	.095	-.083	1.000	.040	.022	-.060	-.111	-.316	.03
AGE	-.290	-.145	.040	1.000	.022	-.324	-.539-	-.323	-.15
RACE	.230	.229	.022	.022	1.000	.138	.224	.016	.13
EDUC	.415	.270	-.060	-.324	.138	1.000	.449	.260	.42
ACTLEIS	.758	.280	-.111	-.539	.224	.449	1.000	.290	.44
WORKHRS	.174	.337	-.316	-.323	.016	.260	.290	1.000	.20
ALLART	.510	.231	.035	-.158	.139	.427	.442	.202	1.00

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15 53 05 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

* * * * M U L T I P L E R E G R E S S I O N * * * *

EQUATION NUMBER 1 DEPENDENT VARIABLE PASSLEIS

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 3

BEGINNING BLOCK NUMBER 1. METHOD: ENTER INCOME SEX AGE RACE EDUC

VARIABLE(S) ENTERED ON STEP NUMBER 1. EDUC HIGHEST GRADE ATTENDED
2. SEX SEX
3. RACE RACE
4. AGE AGE LAST BIRTHDAY
5. INCOME FAMILY INCOME

MULTIPLE R	.52500	ANALYSIS OF VARIANCE				
R SQUARE	.27562		DF	SUM OF SQUARES	MEAN SQUARE	
ADJUSTED R SQUARE	.27508	REGRESSION	5	1833.00519	366.60104	
STANDARD ERROR	.85171	RESIDUAL	6641	4817.46378	.72541	
		F = 505.36913		SIGNIF F = .0000		

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	.043734	.001682	.297369	.415080	.271574	.303985	.834039	26.003	.0000
SEX	.263088	.021089	.130994	.094628	.130291	.151322	.989296	12.475	.0000
RACE	.365238	.026596	.148525	.229614	.143423	.166171	.932469	13.733	.0000
AGE	-.009610	6.0721E-04	-.175740	-.289630	-.165292	-.190646	.884624	-15.826	.0000
INCOME	.061653	.003852	.178311	.307269	.167178	.192741	.879020	16.007	.0000
(CONSTANT)	.537201	.056099						9.576	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

```
12 JAN 87    SPSS-X RELEASE 2.2  FOR IBM VM/CMS
15:53:05     COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

                                * * * *  M U L T I P L E   R E G R E S S I O N  * * * *

EQUATION NUMBER 2    DEPENDENT VARIABLE..    ACTLEIS

  DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE    3

BEGINNING BLOCK NUMBER  1.  METHOD:  ENTER      INCOME   AGE      RACE     EDUC


VARIABLE(S) ENTERED ON STEP NUMBER  1.     EDUC      HIGHEST GRADE ATTENDED
                                    2.     RACE      RACE
                                    3.     AGE       AGE LAST BIRTHDAY
                                    4.     INCOME    FAMILY INCOME


MULTIPLE R            .65010        ANALYSIS OF VARIANCE
R SQUARE              .42263                    DF       SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE     .42227        REGRESSION     4       7790.36043       1947.59011
STANDARD ERROR       1.28116        RESIDUAL    6484      10642.65902          1.64137

                                    F =    1186.56195      SIGNIF F =  .0000

---------------------------------- VARIABLES IN THE EQUATION ----------------------------------

VARIABLE            B         SE B       BETA      CORREL  PART COR   PARTIAL   TOLERANCE        T  SIG T

EDUC             .062310      .002559    .251445    .449123   .229794   .289473    .835202   24.352  .0000
RACE             .724045      .040450    .174740    .224455   .168907   .216994    .934351   17.900  .0000
AGE             -.041077  9.2436E-04   -.445808   -.539143  -.419338  -.483176    .884775  -44.438  .0000
INCOME           .062636      .005847    .107511    .280205   .101089   .131877    .884101   10.713  .0000
(CONSTANT)      2.577564      .082675                                              31.177  .0000

------------------ VARIABLES NOT IN THE EQUATION ------------------

VARIABLE     BETA IN  PARTIAL  TOLERANCE  MIN TOLER        T  SIG T

SEX         -.073709 -.096485   .989296    .834039   -7.805  .0000
WORKHRS      .051872  .060948   .797073    .797073    4.916  .0000

END BLOCK NUMBER   1   ALL REQUESTED VARIABLES ENTERED.
```

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:53:05 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

* * * * M U L T I P L E R E G R E S S I O N * * * *

EQUATION NUMBER 2 DEPENDENT VARIABLE. ACTLEIS

BEGINNING BLOCK NUMBER 2. METHOD: ENTER SEX WORKHRS

VARIABLE(S) ENTERED ON STEP NUMBER 5. SEX SEX
6. WORKHRS WORK TIME LAST WEEK

MULTIPLE R	.65469
R SQUARE	.42862
ADJUSTED R SQUARE	.42809
STANDARD ERROR	1.27469

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	6	7900.81925	1316.80321
RESIDUAL	6482	10532.20019	1.62484

F = 810.42121 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	.060839	.002562	.245509	.449123	.222915	.282859	.824413	23.743	.0000
RACE	.743765	.040342	.179500	.224455	.173094	.223215	.929904	18.436	.0000
AGE	-.040336	9.5170E-04	-.437769	-.539143	-.397925	-.465825	.826254	-42.383	.0000
INCOME	.054699	.006075	.093888	.280205	.084534	.111141	.810679	9.004	.0000
SEX	-.221936	.033592	-.065582	-.110773	-.062030	-.081787	.894619	-6.607	.0000
WORKHRS	.002249	8.4989E-04	.029270	.289628	.024850	.032857	.720792	2.647	.0081
(CONSTANT)	2.700110	.086580						31.186	.0000

END BLOCK NUMBER 2 ALL REQUESTED VARIABLES ENTERED.

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:53:05 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 3 DEPENDENT VARIABLE.. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 3

BEGINNING BLOCK NUMBER 1. METHOD: ENTER EDUC PASSLEIS

VARIABLE(S) ENTERED ON STEP NUMBER 1.. EDUC HIGHEST GRADE ATTENDED
2.. PASSLEIS

MULTIPLE R	.56226
R SQUARE	.31613
ADJUSTED R SQUARE	.31594
STANDARD ERROR	.41114

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	2	560.34395	280.17197
RESIDUAL	7171	1212.15588	.16904

F = 1657.47100 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	.019055	7.8447E-04	.260731	.427404	.237209	.275724	.827708	24.290	.0000
PASSLEIS	.199540	.005334	.401545	.509769	.365319	.404087	.827708	37.409	.0000
(CONSTANT)	-.223572	.013102						-17.064	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:53:05 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 - VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 4 DEPENDENT VARIABLE.. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 3

BEGINNING BLOCK NUMBER 1 METHOD: ENTER AGE WORKHRS EDUC SEX ACTLEIS

VARIABLE(S) ENTERED ON STEP NUMBER 1 WORKHRS WORK TIME LAST WEEK
2. EDUC HIGHEST GRADE ATTENDED
3. SEX SEX
4. AGE AGE LAST BIRTHDAY
5. ACTLEIS

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE
MULTIPLE R	.54198				
R SQUARE	.29374				
ADJUSTED R SQUARE	.29323	REGRESSION	5	500.03838	100.00768
STANDARD ERROR	.41791	RESIDUAL	6884	1202.28300	.17465

F = 572.62129 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
WORKHRS	.002504	2.6024E-04	.110476	.202145	.097457	.115194	.778197	9.622	.0000
EDUC	.021097	8.4122E-04	.288673	.427404	.254025	.289340	.774355	25.079	.0000
SEX	.123566	.010707	.123810	.035405	.116895	.137769	.891419	11.541	.0000
AGE	.004760	3.3644E-04	.175152	-.158394	.143291	.168080	.669285	14.147	.0000
ACTLEIS	.114458	.003803	.388102	.441602	.304822	.340977	.616881	30.094	.0000
(CONSTANT)	-.556346	.026879						-20.698	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

```
12 JAN 87    SPSS-X RELEASE 2.2  FOR IBM VM/CMS
15.53.06     COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

PRECEDING TASK REQUIRED       73.90 SECONDS CPU TIME,      282.10 SECONDS ELAPSED.

  73  0  TEMPORARY
  74  0  SELECT IF (NOTSMSA EQ 1)
  75  0  REGRESSION DESCRIPTIVES/
  76  0       MISSING=PAIRWISE/
  77  0       VARS=(COLLECT)/
  78  0       STATISTICS=DEFAULTS ZPP TOL/
  79  0            DEP=PASSLEIS/
  80  0               ENTER INCOME AGE RACE EDUC/
  81  0            DEP=ACTLEIS/
  82  0               ENTER SEX RACE AGE EDUC INCOME/
  83  0            DEP=ALLART/
  84  0               ENTER PASSLEIS EDUC/
  85  0            DEP=ALLART/
  86  0               ENTER SEX AGE EDUC ACTLEIS/

THERE ARE   959432 BYTES OF MEMORY AVAILABLE.
THE LARGEST CONTIGUOUS AREA HAS   939496 BYTES.

     7272 BYTES OF MEMORY REQUIRED FOR REGRESSION PROCEDURE.
        0 MORE BYTES MAY BE NEEDED FOR RESIDUALS PLOTS.
```

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:53:58 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

PAIRWISE DELETION OF MISSING DATA

	MEAN	STD DEV	CASES	LABEL
PASSLEIS	1.731	.982	8612	
INCOME	9.563	2.922	8111	FAMILY INCOME
AGE	45.465	18.892	8833	AGE LAST BIRTHDAY
RACE	.898	.302	8833	RACE
EDUC	13.347	6.195	8833	HIGHEST GRADE ATTENDED
ACTLEIS	2.682	1.780	8612	
SEX	.528	.499	8833	SEX
ALLART	.294	.455	8833	

MINIMUM PAIRWISE N OF CASES = 7907

CORRELATION

	PASSLEIS	INCOME	AGE	RACE	EDUC	ACTLEIS	SEX	ALLART
PASSLEIS	1.000	.412	-.298	.239	.487	.797	.040	.484
INCOME	.412	1.000	-.249	.301	.343	.488	-.141	.276
AGE	-.298	-.249	1.000	.097	-.330	-.557	.080	-.163
RACE	.239	.301	.097	1.000	.133	.213	-.025	.131
EDUC	.487	.343	-.330	.133	1.000	.525	-.039	.417
ACTLEIS	.797	.488	-.557	.213	.525	1.000	-.154	.470
SEX	.040	-.141	.080	-.025	-.039	-.154	1.000	.019
ALLART	.484	.276	-.163	.131	.417	.470	.019	1.000

```
12 JAN 87    SPSS-X RELEASE 2.2  FOR IBM VM/CMS
15:53:59     COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

                                * * * *  M U L T I P L E   R E G R E S S I O N  * * * *

EQUATION NUMBER 1    DEPENDENT VARIABLE..     PASSLEIS

  DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE   10

BEGINNING BLOCK NUMBER  1.  METHOD:  ENTER       INCOME   AGE      RACE     EDUC


VARIABLE(S) ENTERED ON STEP NUMBER  1..     EDUC       HIGHEST GRADE ATTENDED
                                    2..     RACE       RACE
                                    3..     AGE        AGE LAST BIRTHDAY
                                    4..     INCOME     FAMILY INCOME


MULTIPLE R              .57763          ANALYSIS OF VARIANCE
R SQUARE                .33365                          DF       SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE       .33332          REGRESSION       4          2541.78460        635.44615
STANDARD ERROR          .80150          RESIDUAL      7902          5076.23936          .64240

                                        F =     989.17626       SIGNIF F =  .0000

---------------------------------- VARIABLES IN THE EQUATION -----------------------------------

VARIABLE              B         SE B        BETA     CORREL  PART COR   PARTIAL   TOLERANCE         T  SIG

EDUC               .054979     .001615     .346967   .486852   .312618   .357640    .811806    34.043  .000
RACE               .460863     .031956     .141892   .238594   .132436   .160146    .871166    14.422  .000
AGE              -.007467   5.2237E-04    -.143713  -.297791  -.131270  -.158772    .834337   -14.295  .000
INCOME             .071896     .003489     .213989   .411616   .189210   .225804    .781819    20.605  .000
(CONSTANT)         .234888     .048360                                                           4.857  .000


END BLOCK NUMBER    1   ALL REQUESTED VARIABLES ENTERED.
```

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:53:59 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 - VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 2 DEPENDENT VARIABLE.. ACTLEIS

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 10

BEGINNING BLOCK NUMBER 1. METHOD: ENTER SEX RACE AGE EDUC INCOME

VARIABLE(S) ENTERED ON STEP NUMBER 1.. SEX SEX
2.. RACE RACE
3.. AGE AGE LAST BIRTHDAY
4.. EDUC HIGHEST GRADE ATTENDED
5.. INCOME FAMILY INCOME

MULTIPLE R	.73201
R SQUARE	.53584
ADJUSTED R SQUARE	.53554
STANDARD ERROR	1.21319

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	5	13424.51042	2684.90208
RESIDUAL	7901	11628.88837	1.47182

F = 1824.19942 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
SEX	-.262664	.027645	-.073666	-.154204	-.072825	-.106286	.977290	-9.501	.0000
RACE	.838286	.048371	.142320	.212864	.132831	.191366	.871106	17.330	.0000
AGE	-.038804	7.9160E-04	-.411811	-.556826	-.375720	-.482912	.832402	-49.020	.0000
EDUC	.082365	.002445	.286632	.524918	.258188	.354373	.811379	33.685	.0000
INCOME	.142723	.005323	.234243	.488453	.205520	.288806	.769797	26.814	.0000
(CONSTANT)	1.368024	.075395						18.145	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:53:59 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 3 DEPENDENT VARIABLE. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 10

BEGINNING BLOCK NUMBER 1. METHOD: ENTER PASSLEIS EDUC

VARIABLE(S) ENTERED ON STEP NUMBER 1.. EDUC HIGHEST GRADE ATTENDED
2.. PASSLEIS

MULTIPLE R	.52668	ANALYSIS OF VARIANCE				
R SQUARE	.27739		DF	SUM OF SQUARES	MEAN SQUARE	
ADJUSTED R SQUARE	.27722	REGRESSION	2	495.52217	247.76108	
STANDARD ERROR	.38722	RESIDUAL	8609	1290.84717	.14994	
		F = 1652.38397		SIGNIF F = .0000		

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	.017502	7.7116E-04	.238042	.417207	.207926	.237596	.762975	22.695	.0000
PASSLEIS	.170754	.004867	.368007	.483898	.321448	.353702	.762975	35.086	.0000
(CONSTANT)	-.235460	.010482						-22.462	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:53:59 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 4 DEPENDENT VARIABLE.. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 10

BEGINNING BLOCK NUMBER 1. METHOD: ENTER SEX AGE EDUC ACTLEIS

VARIABLE(S) ENTERED ON STEP NUMBER 1.. SEX SEX
2.. EDUC HIGHEST GRADE ATTENDED
3.. AGE AGE LAST BIRTHDAY
4.. ACTLEIS

MULTIPLE R	.53355	ANALYSIS OF VARIANCE			
R SQUARE	.28468		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.28435	REGRESSION	4	508.54233	127.13558
STANDARD ERROR	.38531	RESIDUAL	8607	1277.82701	.14846
		F = 856.34123	SIGNIF F = .0000		

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
SEX	.077330	.008428	.084764	.019371	.083644	.098417	.973752	9.175	.0000
EDUC	.017561	7.8959E-04	.238856	.417207	.202760	.233129	.720595	22.241	.0000
AGE	.003787	2.6499E-04	.157092	-.162748	.130295	.152260	.687944	14.292	.0000
ACTLEIS	.113823	.003150	.444862	.469699	.329400	.362916	.548272	36.133	.0000
(CONSTANT)	-.459055	.020079						-22.862	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

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12 JAN 87    SPSS-X RELEASE 2.2  FOR IBM VM/CMS
15:53:59     COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

PRECEDING TASK REQUIRED        7.85 SECONDS CPU TIME;       53.06 SECONDS ELAPSED

  87  0  TEMPORARY
  88  0  SELECT IF (ONLYSMSA EQ 1)
  89  0  REGRESSION DESCRIPTIVES/
  90  0       MISSING=PAIRWISE/
  91  0       VARS=(COLLECT)/
  92  0       STATISTICS=DEFAULTS ZPP TOL/
  93  0            DEP=PASSLEIS/
  94  0               ENTER SEX AGE INCOME EDUC/
  95  0            DEP=ACTLEIS/
  96  0               ENTER RACE EDUC AGE INCOME/
  97  0               ENTER SEX/
  98  0            DEP=ALLART/
  99  0               ENTER PASSLEIS EDUC/
 100  0            DEP=ALLART/
 101  0               ENTER SEX EDUC AGE ACTLEIS/

THERE ARE   959432 BYTES OF MEMORY AVAILABLE.
THE LARGEST CONTIGUOUS AREA HAS   939792 BYTES.

     7272 BYTES OF MEMORY REQUIRED FOR REGRESSION PROCEDURE.
        0 MORE BYTES MAY BE NEEDED FOR RESIDUALS PLOTS.
```

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:54:52 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

PAIRWISE DELETION OF MISSING DATA

	MEAN	STD DEV	CASES	LABEL
PASSLEIS	2.010	.925	11203	
SEX	.519	.500	11330	SEX
AGE	41.967	16.985	11330	AGE LAST BIRTHDAY
INCOME	11.038	2.628	10152	FAMILY INCOME
EDUC	15.771	6.485	11330	HIGHEST GRADE ATTENDED
ACTLEIS	3.258	1.663	11203	
RACE	.900	.300	11330	RACE
ALLART	.435	.496	11330	

MINIMUM PAIRWISE N OF CASES = 10041

CORRELATION

	PASSLEIS	SEX	AGE	INCOME	EDUC	ACTLEIS	RACE	ALLART
PASSLEIS	1.000	.086	-.276	.281	.376	.747	.043	.422
SEX	.086	1.000	.060	-.120	-.099	-.125	-.032	.023
AGE	-.276	.060	1.000	-.197	-.232	-.539	.064	-.122
INCOME	.281	-.120	-.197	1.000	.340	.371	.047	.226
EDUC	.376	-.099	-.232	.340	1.000	.406	-.021	.391
ACTLEIS	.747	-.125	-.539	.371	.406	1.000	.092	.406
RACE	.043	-.032	.064	.047	-.021	.092	1.000	.020
ALLART	.422	.023	-.122	.226	.391	.406	.020	1.000

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:54:52 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 1 DEPENDENT VARIABLE PASSLEIS

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 16

BEGINNING BLOCK NUMBER 1. METHOD: ENTER SEX AGE INCOME EDUC

VARIABLE(S) ENTERED ON STEP NUMBER 1. EDUC HIGHEST GRADE ATTENDED
2. SEX SEX
3. AGE AGE LAST BIRTHDAY
4. INCOME FAMILY INCOME

		ANALYSIS OF VARIANCE			
MULTIPLE R	.46843		DF	SUM OF SQUARES	MEAN SQUARE
R SQUARE	.21943	REGRESSION	4	1885.39398	471.34850
ADJUSTED R SQUARE	.21912	RESIDUAL	10036	6706.93636	.66829
STANDARD ERROR	.81749				

F = 705.30765 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	.041733	.001362	.292548	.376385	.270242	.292499	.853317	30.643	.0000
SEX	.269933	.016484	.145795	.086352	.144417	.161319	.981183	16.375	.0000
AGE	-.010072	4.9819E-04	-.184928	-.276064	-.178303	-.197826	.929635	-20.218	.0000
INCOME	.057227	.003342	.162550	.280991	.151007	.168476	.863017	17.123	.0000
(CONSTANT)	1.002665	.048380						20.725	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:54:52 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 2 DEPENDENT VARIABLE.. ACTLEIS

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 16

BEGINNING BLOCK NUMBER 1. METHOD: ENTER RACE EDUC AGE INCOME

VARIABLE(S) ENTERED ON STEP NUMBER 1.. RACE RACE
2.. EDUC HIGHEST GRADE ATTENDED
3.. AGE AGE LAST BIRTHDAY
4.. INCOME FAMILY INCOME

MULTIPLE R	.65140
R SQUARE	.42432
ADJUSTED R SQUARE	.42409
STANDARD ERROR	1.26213

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	4	11783.55560	2945.88890
RESIDUAL	10036	15987.13435	1.59298

F = 1849.29584 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
RACE	.649801	.042231	.117034	.092384	.116537	.151813	.991532	15.387	.0000
EDUC	.060793	.002100	.237042	.406476	.219237	.277594	.855420	28.947	.0000
AGE	-.044362	7.7070E-04	-.453051	-.539250	-.435948	-.498191	.925926	-57.560	.0000
INCOME	.124128	.005151	.196118	.371435	.182496	.233857	.865915	24.096	.0000
(CONSTANT)	2.205618	.079337						27.801	.0000

---------- VARIABLES NOT IN THE EQUATION ----------

VARIABLE	BETA IN	PARTIAL	TOLERANCE	MIN TOLER	T	SIG T
SEX	-.047607	-.062122	.980242	.852643	-6.235	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:54:53 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 2 DEPENDENT VARIABLE ACTLEIS

BEGINNING BLOCK NUMBER 2 METHOD: ENTER SEX

VARIABLE(S) ENTERED ON STEP NUMBER 5 SEX SEX

MULTIPLE R	.65310	ANALYSIS OF VARIANCE			
R SQUARE	.42654		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.42625	REGRESSION	5	11845.25307	2369.05061
STANDARD ERROR	1.25976	RESIDUAL	10035	15925.43688	1.58699
		F = 1492.79565	SIGNIF F = .0000		

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG
RACE	.641660	.042171	.115568	.092384	.115022	.150168	.990581	15.216	.000
EDUC	.060047	.002100	.234133	.406476	.216196	.274524	.852643	28.599	.000
AGE	-.044221	7.6958E-04	-.451611	-.539250	-.434376	-.497562	.925127	-57.461	.000
INCOME	.121374	.005161	.191767	.371435	.177793	.228565	.859572	23.519	.000
SEX	-.158462	.025414	-.047607	-.124595	-.047135	-.062122	.980242	-6.235	.000
(CONSTANT)	2.331430	.081718						28.530	.000

END BLOCK NUMBER 2 ALL REQUESTED VARIABLES ENTERED.

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:54:53 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 3 DEPENDENT VARIABLE.. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 16

BEGINNING BLOCK NUMBER 1. METHOD: ENTER PASSLEIS EDUC

VARIABLE(S) ENTERED ON STEP NUMBER 1.. EDUC HIGHEST GRADE ATTENDED
2.. PASSLEIS

		ANALYSIS OF VARIANCE			
MULTIPLE R	.49105		DF	SUM OF SQUARES	MEAN SQUARE
R SQUARE	.24113	REGRESSION	2	663.95332	331.97666
ADJUSTED R SQUARE	.24100	RESIDUAL	11200	2089.51908	.18656
STANDARD ERROR	.43193				

F = 1779.42313 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
EDUC	.020653	6.7926E-04	.270147	.390893	.250281	.276136	.858334	30.406	.0000
PASSLEIS	.171927	.004762	.320804	.422484	.297213	.322905	.858334	36.107	.0000
(CONSTANT)	-.236232	.012076						-19.563	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

12 JAN 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
15:54:53 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 4 DEPENDENT VARIABLE.. ALLART

DESCRIPTIVE STATISTICS ARE PRINTED ON PAGE 16

BEGINNING BLOCK NUMBER 1. METHOD: ENTER SEX EDUC AGE ACTLEIS

VARIABLE(S) ENTERED ON STEP NUMBER 1.. ACTLEIS
2.. SEX SEX
3.. EDUC HIGHEST GRADE ATTENDED
4.. AGE AGE LAST BIRTHDAY

MULTIPLE R	.49798
R SQUARE	.24798
ADJUSTED R SQUARE	.24771
STANDARD ERROR	.43002

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	4	682.81009	170.70252
RESIDUAL	11198	2070.66231	.18491

F = 923.14756 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
ACTLEIS	.113565	.003100	.380959	.406018	.300228	.327156	.621077	36.636	.0000
SEX	.088699	.008207	.089393	.023149	.088569	.101605	.981649	10.808	.0000
EDUC	.021247	6.8679E-04	.277910	.390893	.253523	.280604	.832196	30.937	.0000
AGE	.004155	2.8409E-04	.142360	-.122205	.119866	.136921	.708949	14.627	.0000
(CONSTANT)	-.490433	.021453						-22.861	.0000

END BLOCK NUMBER 1 ALL REQUESTED VARIABLES ENTERED.

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12 JAN 87    SPSS-X RELEASE 2.2  FOR IBM VM/CMS
15:54:53     COLUMBIA UNIVERSITY - CUCCA     IBM 3083 & 4341  VM/SP CMS

PRECEDING TASK REQUIRED          8.86 SECONDS CPU TIME;        53.40 SECONDS ELAPSED.


   101 COMMAND LINES READ.
     0 ERRORS DETECTED.
     0 WARNINGS ISSUED.
    92 SECONDS CPU TIME.
   398 SECONDS ELAPSED TIME.
       END OF JOB.
```

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CUVMB       PRBSR        2/26/87    13 29 55  E S T   WAS THE ORIGIN

DEST  GIA      PRBSR     FILE  2589  NAME  WEN1        SPSSX         DIST  P         RECS: 00000088


     1       FILE HANDLE LAS82/NAME='LAS82 SPSSXFIL F'
     2       FILE HANDLE LAS82AGG/NAME='LAS82AGG SPSSXFIL F'
     3       FILE HANDLE COR82AGG/NAME='COR82AGG SPSSXFIL F'
     4       GET FILE=LAS82/KEEP=EDUC INCOME AGE MARITAL SEX RACE
     5                           SMSA PSU JAZZ MUSIC OPERA MUSICAL PLAY
     6                           BALLET ART WORKHRS INFANTS CHILDREN LASPWT/
     7       COMPUTE WT=RND(LASPWT/12000)
     8       WEIGHT BY WT
     9       SORT CASES BY PSU(A)
    10       MISSING VALUES JAZZ(8) MUSIC(8) OPERA(8) MUSICAL(8) PLAY(8)
    11                      BALLET(8) ART(8) MARITAL(8) INFANTS(9) CHILDREN(9)
    12                      EDUC(98) INCOME(98) WORKHRS(998)
    13       COMPUTE KIDS=INFANTS+CHILDREN
    14       RECODE EDUC(1 THRU 8=1)(9 THRU 11=2)(12=3)(21 THRU 23=4)
    15         (24=5)(25 THRU 26=6)/INCOME (3 THRU 5=1)(6 THRU 8=2)
    16         (9 THRU 10=3)(11 THRU 12=4)(13=5)(14=6)/AGE (18 THRU 24=1)
    17         (25 THRU 34=2)(35 THRU 44=3)(45 THRU 54=4)(55 THRU 64=5)
    18         (65 THRU 74=6)(75 THRU 94=7)/
    19       RECODE JAZZ (0=0)
    20                   (ELSE=1)
    21       RECODE MUSIC (0=0)
    22                    (ELSE=1)
    23       RECODE OPERA (0=0)
    24                    (ELSE=1)
    25       RECODE MUSICAL (0=0)
    26                      (ELSE=1)
    27       RECODE PLAY (0=0)
    28                   (ELSE=1)
    29       RECODE BALLET (0=0)
    30                     (ELSE=1)
    31       RECODE ART (0=0)
    32                  (ELSE=1)
    33       COMPUTE CENCITY=0
    34       IF (SMSA=1) CENCITY=1
    35       COMPUTE ONLYSMSA=0
    36       IF (SMSA=2) ONLYSMSA=1
    37       COMPUTE NOTSMSA=0
    38       IF (SMSA=3) NOTSMSA=1
    39       COMPUTE ALLART=SUM(JAZZ,MUSIC,OPERA,MUSICAL,PLAY,BALLET,ART)
    40       RECODE SEX (1=0)
    41                  (2=1)
    42       RECODE RACE (1=1) (2,3=0)
    43       COMPUTE NEVMARRY=0
    44       IF (MARITAL=5) NEVMARRY=1
    45       AGGREGATE OUTFILE=LAS82AGG/
    46          BREAK=PSU(A)
    47          /EDMEAN 'MEAN EDUC W/IN PSU'=MEAN(EDUC)
    48          /INCMEAN 'MEAN INCOME W/IN PSU'=MEAN(INCOME)
    49          /AGEMEAN 'MEAN AGE W/IN PSU'=MEAN(AGE)
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50.         /NEVMEAN 'MEAN NEVMARRY W/IN PSU'=MEAN(NEVMARRY)
51.         /SEXMEAN 'MEAN SEX W/IN PSU'=MEAN(SEX)
52.         /WORKMEAN 'MEAN WORKHRS W/IN PSU'=MEAN(WORKHRS)
53.         /RACEMEAN 'MEAN RACE W/IN PSU'=MEAN(RACE)
54.       MATCH FILES TABLE=LAS82AGG/
55.            FILE=*/BY=PSU/MAP
56.       COMPUTE CONTEXT1=CENCITY*(SEXMEAN- 529)
57.       COMPUTE CONTEXT2=CENCITY*(EDMEAN-3 254)
58.       COMPUTE CONTEXT3=CENCITY*(RACEMEAN- 88)
59.       COMPUTE CONTEXT4=CENCITY*(AGEMEAN-3 361)
60.       COMPUTE CONTEXT5=CENCITY*(INCMEAN-3 596)
61.       COMPUTE CONTEXT6=CENCITY*(WORKMEAN-22 641)
62.       COMPUTE CONTEXT7=CENCITY*(NEVMEAN- 206)
63.       COMPUTE CONTEXT8=NOTSMSA*(SEXMEAN- 529)
64.       COMPUTE CONTEXT9=NOTSMSA*(EDMEAN-3 254)
65.       COMPUTE CONTEX10=NOTSMSA*(RACEMEAN- 88)
66.       COMPUTE CONTEX11=NOTSMSA*(AGEMEAN-3 361)
67.       COMPUTE CONTEX12=NOTSMSA*(INCMEAN-3 596)
68.       COMPUTE CONTEX13=NOTSMSA*(WORKMEAN-22 641)
69.       COMPUTE CONTEX14=NOTSMSA*(NEVMEAN- 206)
70.       COMPUTE PERSON1=CENCITY*(SEX-.529)
71.       COMPUTE PERSON2=CENCITY*(EDUC-3 254)
72.       COMPUTE PERSON3=CENCITY*(RACE-.88)
73.       COMPUTE PERSON4=CENCITY*(AGE-3.361)
74.       COMPUTE PERSON5=CENCITY*(INCOME-3.60)
75.       COMPUTE PERSON6=CENCITY*(WORKHRS-22.656)
76.       COMPUTE PERSON7=CENCITY*(NEVMARRY-.206)
77.       COMPUTE PERSON8=NOTSMSA*(SEX-.529)
78.       COMPUTE PERSON9=NOTSMSA*(EDUC-3.254)
79.       COMPUTE PERSON10=NOTSMSA*(RACE-.88)
80.       COMPUTE PERSON11=NOTSMSA*(AGE-3.361)
81.       COMPUTE PERSON12=NOTSMSA*(INCOME-3.60)
82.       COMPUTE PERSON13=NOTSMSA*(WORKHRS-22.656)
83.       COMPUTE PERSON14=NOTSMSA*(NEVMARRY-.206)
84.       PROCEDURE OUTPUT OUTFILE=COR82AGG
85.       PEARSON CORR EDUC TO PERSON14
86.       STATISTICS 1
87.       OPTIONS 4
88.       FINISH
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

EQUATION NUMBER 1 DEPENDENT VARIABLE.. ALLART

---------- VARIABLES NOT IN THE EQUATION ----------

VARIABLE	BETA IN	PARTIAL	TOLERANCE	MIN TOLER	T	SIG T
CONTEXT3	-.024243	-.025596	.853010	.657334	-9.799	.0000
CONTEXT4	.013449	.014892	.938209	.653160	5.699	.0000
PERSON3	.024940	.021210	.553437	.543830	8.119	.0000
PERSON6	.032524	.036031	.939102	.649391	13.798	.0000
PERSON7	.032081	.029890	.664225	.497911	11.443	.0000
PERSON8	-.016438	-.015384	.670219	.657192	-5.888	.0000
PERSON9	-.069386	-.064502	.661273	.577584	-24.735	.0000
PERSON11	-.001673	-.001388	.526923	.383338	-.531	.5952
PERSON12	-.060907	-.055250	.629652	.536399	-21.176	.0000

END BLOCK NUMBER 3 ALL REQUESTED VARIABLES ENTERED.

* *

BEGINNING BLOCK NUMBER 4. METHOD: ENTER CONTEXT3 CONTEXT4 PERSON3 PERSON6 PERSON7 PERSON8 PERSON9 PERSON11 PERSON12

VARIABLE(S) ENTERED ON STEP NUMBER 12.. PERSON6
13.. CONTEXT4
14.. CONTEXT3
15.. PERSON8
16.. PERSON7
17.. PERSON9
18.. PERSON12
19.. PERSON3
20.. PERSON11

MULTIPLE R	.49243	ANALYSIS OF VARIANCE			
R SQUARE	.24249		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.24238	REGRESSION	20	62584.80254	3129.24013
STANDARD ERROR	1.15547	RESIDUAL	146438	195511.72332	1.33512

F = 2343.79636 SIGNIF F = .0000

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**** MULTIPLE REGRESSION ****

EQUATION NUMBER 1 DEPENDENT VARIABLE.. ALLART

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG
NOTSMSA	-.041760	.007915	-.014782	-.139603	-.012001	-.013787	.659085	-5.276	.000
CENCITY	.172372	.008041	.057353	.068719	.048757	.055932	.722692	21.437	.000
NEVMEAN	.570925	.035681	.041072	.115372	.036392	.041777	.785105	16.001	.000
EDMEAN	.260551	.008012	.086635	.242066	.073965	.084678	.728911	32.521	.000
SEX	.304330	.007552	.114396	.051978	.091650	.104723	.641860	40.296	.000
KIDS	-.063885	.003910	-.041984	-.054765	-.037157	-.042653	.783273	-16.337	.000
RACE	.131922	.012343	.033082	.078144	.024310	.027920	.539971	10.688	.000
AGE	.049205	.002553	.073143	-.083526	.043831	.050296	.359107	19.271	.000
INCOME	.109730	.003111	.113499	.233205	.080226	.091787	.499618	35.273	.000
EDUC	.401636	.002979	.418246	.442535	.306593	.332251	.537354	134.801	.000
NEVMARRY	.134708	.010662	.041077	.097757	.028736	.032998	.489369	12.634	.000
PERSON6	.003559	2.9086E-04	.029408	.079954	.027828	.031957	.895451	12.235	.000
CONTEXT4	.131809	.014887	.021070	-.032389	.020137	.023131	.913447	8.854	.000
CONTEXT3	-.611408	.045669	-.034773	-.023938	-.030449	-.034964	.766780	-13.388	.000
PERSON8	-.127007	.013026	-.027372	.021515	-.022176	-.025471	.656339	-9.750	.000
PERSON7	.204606	.016401	.035527	.083353	.028374	.032583	.637876	12.475	.000
PERSON9	-.097891	.005336	-.057120	.220238	-.041726	-.047887	.533632	-18.346	.000
PERSON12	-.072467	.005261	-.043524	.115326	-.031329	-.035973	.518143	-13.775	.000
PERSON3	.184724	.019801	.030252	.059276	.021218	.024372	.491946	9.329	.000
PERSON11	-.032613	.003309	-.032684	-.043136	-.022415	-.025746	.470336	-9.855	.000
(CONSTANT)	-2.324711	.032869						-70.726	.000

END BLOCK NUMBER 4 ALL REQUESTED VARIABLES ENTERED.

* *

BEGINNING BLOCK NUMBER 3. METHOD: ENTER EDUC INCOME AGER NEVMARRY SEX WORKHRS RAC

VARIABLE(S) ENTERED ON STEP NUMBER 11.. SEX SEX
12.. KIDS
13.. NEVMARRY
14.. WORKHRS # HOURS WORKED LAST WEEK AT ALL JOBS
15.. EDUC EDUCATION
16.. RACE RACE
17.. INCOME FAMILY INCOME
18.. AGER AGE LAST BIRTHDAY

MULTIPLE R	.48627	ANALYSIS OF VARIANCE			
R SQUARE	.23646		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.23631	REGRESSION	18	37317.27388	2073.18188
STANDARD ERROR	1.14818	RESIDUAL	91402	120497.70162	1.31833

F = 1572.58577 SIGNIF F = .0000

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 1 DEPENDENT VARIABLE.. ALLART

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
CENCITY	.123662	.009837	.041830	.060324	.036335	.041546	.754541	12.571	.0000
NOTSMSA	-.112873	.010544	-.039954	-.153128	-.030941	-.035388	.599740	-10.705	.0000
SEXMEAN	-.010943	.067822	-4.920E-04	-.005716	-.000466	-.000534	.898344	-.161	.8718
KIDSMEAN	.100482	.022228	.015827	-.052610	.013066	.014951	.681524	4.521	.0000
WORKMEAN	-.007555	.001111	-.021197	-.036582	-.019659	-.022492	.860102	-6.802	.0000
RACEMEAN	-.089186	.030257	-.010437	.010909	-.008519	-.009749	.666247	-2.948	.0032
AGEMEAN	.048079	.009459	.021191	-.088018	.014691	.016811	.480620	5.083	.0000
INCMEAN	-.019775	.008785	-.009722	.145993	-.006506	-.007445	.447827	-2.251	.0244
EDMEAN	.189658	.011955	.067894	.250416	.045861	.052401	.456078	15.864	.0000
NEVMEAN	.662489	.051183	.055903	.124428	.037407	.042770	.447189	12.942	.0000
SEX	.213609	.008016	.081172	.046391	.077016	.087798	.900226	26.647	.0000
KIDS	-.069308	.005083	-.045017	-.052494	-.039413	-.045059	.766513	-13.636	.0000
NEVMARRY	.116250	.011539	.035780	.085154	.029117	.033303	.662229	10.074	.0000
WORKHRS	-5.57221E-04	2.9645E-04	-.005882	.008907	-.005433	-.006217	.853046	-1.880	.0602
EDUC	.374007	.003298	.385598	.447732	.327745	.351186	.722439	113.396	.0000
RACE	.190141	.013231	.048383	.079782	.041536	.047480	.736985	14.371	.0000
INCOME	.079267	.002913	.076324	.252390	.078657	.089653	.666811	27.214	.0000
AGER	.024538	.002424	.037020	-.070968	.029261	.033469	.624756	10.124	.0000
(CONSTANT)	-1.566062	.084892						-18.448	.0000

END BLOCK NUMBER 3 ALL REQUESTED VARIABLES ENTERED.

06 MAR 87 SPSS-X RELEASE 2.2 FOR IBM VM/CMS
11:05:15 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 1 DEPENDENT VARIABLE.. CLAS

BEGINNING BLOCK NUMBER 3. METHOD: ENTER ELITHUSD

VARIABLE(S) ENTERED ON STEP NUMBER 11.. ELITHUSD

MULTIPLE R	.32700
R SQUARE	.10693
ADJUSTED R SQUARE	.10568
STANDARD ERROR	.34565

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	11	112.19389	10.19763
RESIDUAL	7843	937.05064	.11948

F = 85.36964 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
FBO843	-.665750	.222696	-.032298	-.066745	-.031901	-.033737	.975563	-2.990	.0028
NWAR	.089468	.012048	.102317	.033938	.079243	.083560	.599836	7.426	.0000
NOCC	.037904	.009321	.081137	.193603	.043393	.045872	.720149	4.067	.0000
BLCK	-.038739	.012778	-.034029	-.079331	-.032352	-.034214	.903884	-3.032	.0024
DIV	.061489	.013946	.049969	.023693	.047048	.049724	.886499	4.409	.0000
MALE	-.040062	.008302	-.054447	-.040713	-.051493	-.054407	.894422	-4.826	.0000
SPLN	-.009085	.001279	-.197140	-.023606	-.042426	-.044849	.046314	-3.976	.0001
LINC	.063491	.018217	.058024	.152431	.048905	.051681	.710369	4.583	.0000
ED	.029122	.001538	.250836	.283616	.202071	.209099	.648974	18.937	.0000
AGE	.006298	.001052	.307492	-.003633	.063886	.067449	.043166	5.987	.0000
ELITHUSD	.034967	.011969	.031500	.057572	.031175	.032970	.979453	2.921	.0035
(CONSTANT)	-.710379	.093428						-7.604	.0000

06 MA SPSS-X RELEASE 2.2 FOR IBM VM/CMS
11:05:16 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 2 DEPENDENT VARIABLE.. JAZZ

VARIABLE(S) REMOVED ON STEP NUMBER 13.. MALE

MULTIPLE R	.28597
R SQUARE	.08178
ADJUSTED R SQUARE	.08072
STANDARD ERROR	.30628

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	9	65.54204	7.28245
RESIDUAL	7845	735.92023	.09381

F = 77.63180 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
FBOB43	-.776210	.199927	-.043086	-.051472	-.042003	-.043792	.950368	-3.882	.0001
NMAR	.077482	.010570	.101386	.166772	.079306	.082480	.611863	7.330	.0000
NDCC	.020284	.007874	.031311	.071901	.027869	.029071	.792203	2.576	.0100
BLCK	.084354	.011077	.084782	.081099	.082385	.085660	.944265	7.615	.0000
DIV	.075791	.012054	.070473	.054784	.068026	.070813	.931782	6.288	.0000
SPLN	.002831	.001113	.125571	-.178725	.027525	.028712	.048047	2.544	.0110
ED	.015323	.001307	.151006	.190785	.126795	.131177	.705041	11.720	.0000
AGE	-.003960	9.2203E-04	-.221221	-.192923	-.046468	-.048436	.044121	-4.295	.0000
LMA7600	.009086	.004068	.024719	.025016	.024164	.025209	.955602	2.234	.0255
(CONSTANT)	.144483	.049471						2.961	.0031

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 3 DEPENDENT VARIABLE.. MUS

BEGINNING BLOCK NUMBER 4. METHOD: BACKWARD

VARIABLE(S) REMOVED ON STEP NUMBER 12.. QINIBOBO

MULTIPLE R	.35347	ANALYSIS OF VARIANCE			
R SQUARE	.12494		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.12383	REGRESSION	10	169.94135	16.99413
STANDARD ERROR	.38953	RESIDUAL	7844	1190.22083	.15174

F = 111.99770 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
MALE	-.050319	.009355	-.060065	-.052427	-.056814	-.060623	.894671	-5.379	.0000
AGE	.004589	.001187	.196783	-.038102	.040841	.043618	.043074	3.867	.0001
DIV	.037793	.015705	.026975	-.006435	.025417	.027161	.887815	2.406	.0161
BLCK	-.049093	.014372	-.037876	-.098737	-.036078	-.038539	.907340	-3.416	.0006
NOCC	.082232	.010506	.097438	.237891	.082668	.088030	.719810	7.827	.0000
LINC	.216385	.020444	.132082	.228169	.111793	.118663	.716376	10.584	.0000
NWAR	.060857	.013613	.061127	.016226	.047218	.050412	.596683	4.471	.0000
ED	.026151	.001728	.197830	.286403	.159826	.168415	.652700	15.132	.0000
SPLN	-.004371	.001442	-.148831	-.061307	-.032018	-.034207	.046280	-3.031	.0024
LMA7300	.013123	.002155	.064925	.086148	.064319	.068595	.981405	6.090	.0000
(CONSTANT)	-1.261678	.090141						-13.997	.0000

06 M[redacted] SPSS-X RELEASE 2.2 FOR IBM VM/CMS
11:05:17 COLUMBIA UNIVERSITY - CUCCA IBM 3083 & 4341 VM/SP CMS

**** MULTIPLE REGRESSION ****

EQUATION NUMBER 4 DEPENDENT VARIABLE.. PLAY

VARIABLE(S) REMOVED ON STEP NUMBER 13.. SPLN

MULTIPLE R	.31944
R SQUARE	.10204
ADJUSTED R SQUARE	.10101
STANDARD ERROR	.32877

ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	9	96.36427	10.70714
RESIDUAL	7845	847.97673	.10809

F = 99.05640 SIGNIF F = .0000

---------- VARIABLES IN THE EQUATION ----------

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
MALE	-.034741	.007888	-.049769	-.037247	-.047118	-.049662	.896305	-4.404	.0000
AGE	.001757	2.4969E-04	.090394	-.013617	.075265	.079177	.693270	7.035	.0000
DIV	.054269	.013163	.044487	.009072	.044109	.046497	.900285	4.123	.0000
BLCK	-.026544	.012090	-.022728	-.079928	-.021720	-.022915	.913481	-2.030	.0424
NOCC	.041762	.008861	.059387	.196523	.050424	.053136	.720904	4.713	.0000
LINC	.151183	.016974	.110751	.184568	.093288	.100052	.740293	8.907	.0000
NWAR	.041190	.010468	.073763	.031945	.062540	.065855	.718860	5.846	.0000
ED	.024530	.001492	.222704	.270256	.180717	.187333	.658478	16.891	.0000
LNA7300	.009920	.001818	.058900	.078406	.058383	.061495	.982521	5.457	.0000
(CONSTANT)	-.930936	.075065						-12.668	.0000

* * * * MULTIPLE REGRESSION * * * *

EQUATION NUMBER 5 DEPENDENT VARIABLE.. BALL

BEGINNING BLOCK NUMBER 4. METHOD: BACKWARD

VARIABLE(S) REMOVED ON STEP NUMBER 12.. QINIBOBO

MULTIPLE R	.22360	ANALYSIS OF VARIANCE			
R SQUARE	.04998		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.04874	REGRESSION	10	19.67498	1.96750
STANDARD ERROR	.21841	RESIDUAL	7844	374.18920	.04770
		F = 41.24398		SIGNIF F = .0000	

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
MALE	-.042227	.005245	-.093671	-.080348	-.088600	-.090526	.894656	-8.051	.0000
AGE	.003489	6.4504E-04	.277986	-.029262	.037728	.089123	.043125	5.245	.0000
DIV	.024007	.008806	.031843	.014490	.030003	.030767	.887777	2.726	.0064
BLCK	-.022084	.008087	-.031619	-.049418	-.030013	-.030777	.900969	-2.727	.0064
NOCC	.012733	.005893	.029038	.127606	.023778	.024388	.719227	2.161	.0308
LINC	.036425	.011460	.041545	.091537	.035173	.036063	.716785	3.196	.0014
NWAR	.058726	.007622	.109789	.056017	.083088	.084965	.598454	7.731	.0000
ED	.009938	9.6900E-04	.139993	.148040	.113098	.115260	.652677	10.277	.0000
SPLN	-.003613	8.0834E-04	-.228604	-.042159	-.049194	-.050406	.046308	-4.470	.0000
LAB403	.009929	.002974	.037144	.046612	.036748	.037675	.978829	3.339	.0008
(CONSTANT)	-.353073	.050546						-6.985	.0000

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**** MULTIPLE REGRESSION ****

EQUATION NUMBER 6 DEPENDENT VARIABLE.. QAL

BEGINNING BLOCK NUMBER 3. METHOD: ENTER LNA7135

VARIABLE(S) ENTERED ON STEP NUMBER 12.. LNA7135

		ANALYSIS OF VARIANCE			
			DF	SUM OF SQUARES	MEAN SQUARE
MULTIPLE R	.37683	REGRESSION	12	207.52881	17.29407
R SQUARE	.14202	RESIDUAL	7842	1253.74084	.15988
ADJUSTED R SQUARE	.14071				
STANDARD ERROR	.39984	F =	108.17234	SIGNIF F =	.0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
FBO843	-.860579	.271350	-.035377	-.077797	-.033173	-.035791	.879267	-3.171	.0015
GINI8080	-.897874	.360122	-.030738	-.092766	-.026079	-.028144	.719821	-2.493	.0127
MALE	-.030954	.009604	-.035648	-.017024	-.033712	-.036372	.894368	-3.223	.0013
AGE	.003921	.001218	.162192	-.104352	.033676	.036332	.043110	3.220	.0013
DIV	.035529	.016138	.038238	.012660	.035991	.038826	.885912	3.441	.0006
BLCK	-.061921	.014833	-.046090	-.092475	-.043665	-.047089	.897543	-4.175	.0000
NOCC	.052285	.010795	.059772	.211520	.050661	.054612	.718377	4.843	.0000
LINC	.097871	.021153	.057637	.190537	.048395	.052176	.705008	4.627	.0000
NWAR	.074960	.013971	.072641	.062981	.056121	.060477	.596881	5.365	.0000
ED	.038631	.001779	.281951	.349250	.227129	.239153	.648930	21.714	.0000
BPLN	-.004752	.001480	-.156088	-.122923	-.033584	-.036234	.046295	-3.211	.0013
LNA7135	.016507	.005745	.034420	.062710	.030052	.032427	.762326	2.873	.0041
(CONSTANT)	-.434205	.143946						-3.016	.0026

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**** MULTIPLE REGRESSION ****

EQUATION NUMBER 7 DEPENDENT VARIABLE.. READ

VARIABLE(S) REMOVED ON STEP NUMBER 13.. FSCHL

MULTIPLE R	.41772	ANALYSIS OF VARIANCE			
R SQUARE	.17449		DF	SUM OF SQUARES	MEAN SQUARE
ADJUSTED R SQUARE	.17354	REGRESSION	9	329.61734	36.62415
STANDARD ERROR	.44589	RESIDUAL	7845	1559.45460	.19878

F = 184.24162 SIGNIF F = .0000

VARIABLES IN THE EQUATION

VARIABLE	B	SE B	BETA	CORREL	PART COR	PARTIAL	TOLERANCE	T	SIG T
MALE	-.137805	.010707	-.139580	-.124385	-.132025	-.143800	.894674	-12.870	.0000
AGE	-.003432	.001357	-.124879	-.120456	-.025949	-.028548	.043178	-2.530	.0114
DIV	.040490	.017976	.024523	.001131	.023106	.025423	.887815	2.253	.0243
BLCK	-.053294	.016415	-.034889	-.093338	-.033304	-.036630	.911188	-3.247	.0012
NOCC	.083880	.012002	.084337	.259667	.071693	.078863	.722646	6.989	.0000
LINC	.142353	.023376	.073732	.193528	.062470	.068394	.717844	6.090	.0000
NWAR	.041306	.015533	.035205	.058323	.027278	.030009	.600365	2.659	.0078
ED	.048288	.001978	.309967	.369659	.250429	.265719	.652739	24.413	.0000
SPLN	.003818	.001649	.110322	-.126954	.023747	.026127	.046333	2.315	.0206
(CONSTANT)	-.529459	.103161						-5.132	.0000